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OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

World Population

January 1967

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THE ANNALS

of The American Academy *of* Political
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WORLD POPULATION

Special Editor of this Volume

JOHN D. DURAND
Professor of Economics and Sociology
University of Pennsylvania

PHILADELPHIA
1967

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A Long-Range View of World Population Growth

By JOHN D. DURAND

ABSTRACT: Mankind is undergoing an extraordinary expansion of numbers, unparalleled in history, which began in the eighteenth century and which has gathered increasing momentum since the beginning of the present century. The increase of the earth's human population during the last two hundred years has been three times greater than the cumulated growth during all the previous millennia of man's existence on the planet, and it appears likely that a still greater increase may be in store for the future, before a position of numerical stability is reached. The speeding up of population growth has been brought about by a great improvement in the conditions of mortality, which has enhanced the biological power of multiplication of the species. This has been partly offset in the economically more developed countries by restraint of reproduction, but reproduction rates remain undiminished in most of the less developed countries. The latter countries contain the major share of world population and are receiving an even larger share of the current increase resulting from the excess of births over deaths throughout the world. The crux of the world population problem is in the association of persistent poverty and technological retardation with unremitting rapid growth of numbers in the less developed countries.

John D. Durand, Ph.D., Philadelphia, Pennsylvania, is Professor of Economics and Sociology and Chairman of the Graduate Group in Demography at the University of Pennsylvania. Formerly of the Population Division, United States Bureau of the Census, he joined the United States Secretariat in 1948 and remained there until 1965 as a staff member of the Population Branch, taking charge of the Branch from 1954 onward as Assistant Director of the Bureau of Social Affairs. He is the author of The Labor Force in the United States, 1890–1960 (1948) and various articles on population questions.

THE human species is now undergoing a phase of extraordinary numerical expansion which began about 200 or 250 years ago among the peoples of several parts of the earth and in which virtually all humanity has since become involved. From about 1700 or 1750 until 1900, the number of the earth's human inhabitants increased at a rate distinctly above the long-term average of earlier centuries. The growth rate rose higher during the first half of the present century and higher yet after World War II, so that the population is now increasing at a speed without precedent in human experience. Although the figures cannot be determined exactly, the following estimates probably represent the form of the trend fairly well.[1]

The rise of the annual growth rate may now be near its climax, but it is apparent that the growth is by no means yet finished. Barring a catastrophe, an enormous further increase of the world population is almost certainly still in store. If the events of the next few decades bear out the assumptions of the United Nations projections described in another article in this issue, the population in the year 2000 will be in the range of approximately 5,500 to 7,000 million and still increasing, according to the most conservative assumptions ("low" variant), at an annual rate of about 1¼ per cent. This would be appreciably less than the present growth rate but still well above the average for the first half of this century. It does not seem impossible that the increase during the twenty-first century might exceed that of the twentieth in absolute number, although probably not in proportionate measure. One can only conjecture how long the growth may continue and how many human beings the earth may hold when this growth comes to an end, as ultimately it must.

TABLE 1—GROWTH RATE OF WORLD POPULATION

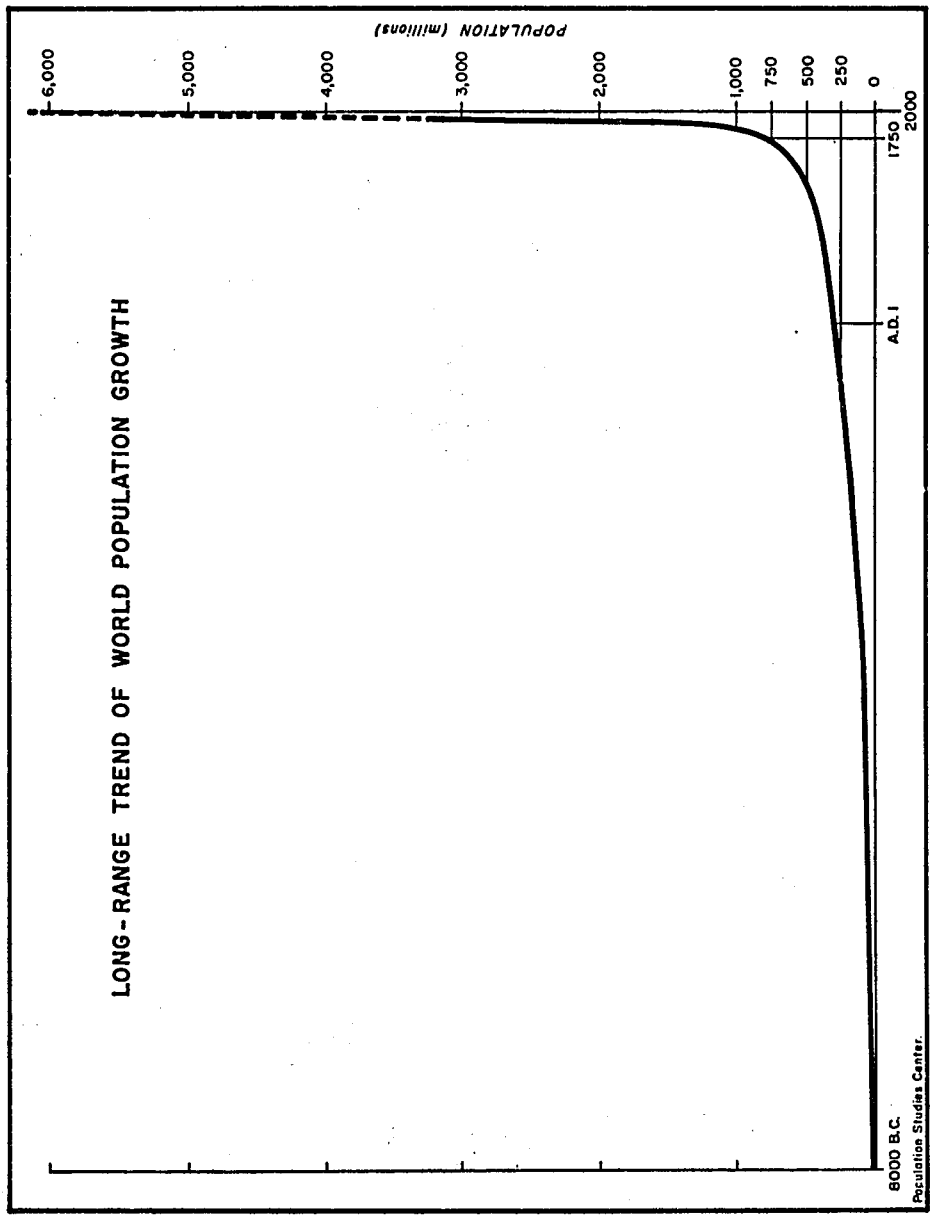
WORLD POPULATION (MILLIONS)		AVERAGE ANNUAL GROWTH RATE (PER CENT)	
1750	791	1750–1800	0.4
1800	978	1800–1850	0.5
1850	1,262	1850–1900	0.5
1900	1,650	1900–1950	0.8
1950	2,515	1950–1965	1.8
1965	3,281		

[1] The estimates shown here for 1750, 1800, 1850, and 1900 are from the author's article, "The Modern Expansion of World Population" (forthcoming in *Proceedings of the American Philosophical Society*), where an explanation of their basis will be found. The estimates for 1950 and 1965 and projections for the year 2000 quoted farther on are from the United Nations publication, *World Population Prospects as Assessed in 1963*, Population Studies, No. 41, (New York: United Nations, 1966).

POPULATION GROWTH IN EARLIER EPOCHS OF WORLD HISTORY

The increase which has already taken place since the beginning of the present growth phase is mammoth compared with the increases during earlier periods of history and prehistory. If the population trend could be traced back to the time, nearly ten thousand years ago, when the earliest known farming communities made their appearance, the form of the long-range growth curve would resemble what is shown in the chart on page 3.

For this chart, an estimate of five million has been taken to represent the order of magnitude of the world population in 8000 B.C., when, according to present archaeological information, all human societies were still living mainly by hunting, fishing, and collecting wild-plant food, insects, and the like. For the population at the birth of Christ, the order of magnitude is represented by an estimate of 300 million. If these estimates are near the truth, the population


LONG-RANGE TREND OF WORLD POPULATION GROWTH
POPULATION (millions)
6,000
5,000
4,000
3,000
2,000
1,000
750
500
250
0
2000
1750
A.D. 1
8000 B.C.
Population Studies Center

doubled approximately six times between 8000 B.C. and A.D. 1;[2] in other words, the average doubling time was more than a thousand years. During the first seventeen and a half centuries after Christ, according to the population estimates of 300 million as of A.D. 1 and approximately 800 million as of 1750, the average growth rate again corresponded to a doubling time of more than a thousand years. Contrasted against this background are the approximate doubling in 150 years indicated by the estimates for 1750 and 1900 and in 65 years by those for 1900 and 1965.

The contrast can be drawn from another angle by calculating the shares of the modern period and of earlier periods in the total increase of the human species since its origin. If the total increase is considered as a net figure, not including whatever gains have been cancelled out by subsequent losses, its measure is the present number of the population, estimated at 3,281 million as of 1965. Three-fourths of this increase (about 2,500 million) has taken place since 1750, about one-sixth or one-seventh (500 million) accumulated during the seventeen and a half centuries from A.D. 1 to 1750, and about one-tenth (300 million) during the eighty centuries from 8000 B.C. to A.D. 1, according to the estimates given above. Only an insignificant fraction of the increase took place before 8000 B.C., during the many thousands of centuries from the origin of the species up to the time of the "agricultural revolution."

A word should be said about the basis of these estimates and their reliability. The size of the world population even at the present time is not known exactly. There are countries with estimated population totalling more than sixty million where no census has yet been taken, and, more important, the census records for some of the more populous countries are dubious for accuracy or badly out of date. In the estimate for Mainland China alone (695 million as of 1965), an error of 100 million is not out of the question. In the historical estimates, margins of error widen in proportions (though not always in absolute magnitudes) as time lengthens. Few countries have precise statistical records of the population trend extending back beyond the nineteenth century. The world population in 1750 has been estimated to a large extent by working back from more recent benchmarks for various countries, and it is not impossible that the total of about 800 million might be off the mark by as much as 200 million in either direction.[3] For the estimate of population at the beginning of the Christian era, some statistical basis exists in ancient Chinese and Roman census records, and the probable magnitude of India's population about that time has been calculated roughly by reference to other kinds of historical information. Estimates for the regions outside the limits of literate civilization at the time of Christ's birth are mostly guesswork, but it is safe to say that their share of the world population was a minor one. The estimated total of 300 million as of A.D. 1 might be too small or too large by as much as 100 million.[4] Of course, there are no

[2] Six doublings would correspond to a sixty-four-fold multiplication (in the ratios 1:2:4:8:16:32:64), whereas a multiplication of sixty-fold is indicated by the estimates.

[3] Walter F. Willcox, *Studies in American Demography* (Ithaca, N.Y.: Cornell University Press, 1940), estimated the world total as of 1750 at 694 million, and A. M. Carr-Saunders, *World Population: Past Growth and Present Trends* (New York: Oxford University Press, 1936) put it at 728 million. A somewhat larger estimate now appears preferable in view of the results of recent research, particularly on the population history of China and India.

[4] A range of 200 to 300 million for the world population as of A.D. 1 was suggested in: United Nations, *The Determinants and Consequences of Population Trends* (New York: United Na-

statistics on the population in any part of the world 8,000 years before Christ. The estimate for that date is based on what is known about the population densities of primitive hunting, fishing, and food-gathering peoples observed during recent times in various kinds of natural environments. The total of 5 million implies an average density of about 15 persons per 100 square miles of land in regions where the climate was favorable to human habitation. This corresponds approximately to estimates of average density of the aboriginal population at the times of early European contacts, in the nondesert regions of Australia, and also in the temperate-climate regions of North America where the Indians did not practice agriculture (with the exception of the extraordinarily populous northwestern coastal region). The estimate of the world total as of 8000 B.C. could be raised as high as ten million or reduced as low as one or two million without much strain on credibility.[5]

By selecting different estimates within the ranges indicated for each date, one would get somewhat different measures of average doubling times and shares of time-periods in the increase of world population up to the present. But the shape of the long-range growth curve would not be greatly changed, and the outstanding feature would remain—growth during the modern period far surpassing that of all previous periods for speed and sheer magnitude of added numbers.

tions, 1953), p. 8. In the present author's opinion, the information available as regards China, the Roman Empire, and India makes it appear prudent to raise the upper limit of the range to 400 million and to take the round number of 300 million as a "medium" estimate.

[5] Several writers have given estimates in this range for the world population just before the development of the first agricultural societies. See Julian Huxley, "Population and Human Destiny," *World Review* (January 1950) and *Harper's Magazine* (September 1950); Edward S. Deevey, Jr., "The Human Crop," *Scientific American* (September 1960).

IMPROVEMENT OF MORTALITY CONDITIONS

The quickening proliferation of humanity in the modern period has not been brought about by an increase in the rate of reproduction but by an improvement in the conditions of mortality. The world's average birth rate has not risen; on the contrary, it is almost certainly lower now than it was two centuries ago, since birth rates in the economically more developed countries have been greatly reduced, while there is no evidence of any great changes having occured in the rest of the world. The impetus for growth of population has come from a decreasing trend of death rates which appears to have begun during the eighteenth century in several parts of the world and has since developed as an almost universal movement.

The improvement in mortality conditions is measured by gains in the expectation of life at birth, which have been most impressive in the countries leading in modern economic development but in which virtually the whole world has had a share. At present, life expectation at birth typically exceeds seventy years in the economically more developed countries and ranges down possibly as low as thirty-five years in areas where conditions of health and survival are least favorable (parts of tropical Africa, for instance). Formerly, a 35-year expectation of life at birth represented an enviable condition among human societies; it is doubtful whether the inhabitants of any large area before the modern era achieved a much greater expectation than this as an average over an extended period of time. The life expectation of slightly over twenty years estimated for India during the

early decades of the present century is probably more nearly representative of the experience of humanity in general during past epochs of history and prehistory. The ancient Greeks and Romans fared little if at all better according to the indications obtained from the study of ages at death inscribed on their tombstones. Life expectation even below twenty years is indicated as the typical condition of early agricultural societies and primitive hunting, fishing, and food-gathering peoples, according to the results of studies of their skeletal remains.

The maximum span of life was no shorter in former times than it is today, but the risks of premature death were far greater. That one out of every four or five children born should die within the first year seems to have been the common experience of human societies in the past, whereas now infant mortality has been reduced to less than one out of fifty in countries where the best conditions of health have been achieved. Mortality risks in later childhood and the early and middle adult years were also fearfully high in the past by modern standards. The causes were largely in hazards of disease and famine, inherent in the natural or social environment, against which the societies of the past had little defense. Now, thanks to modern technology and organization for producing, transporting, and preserving food supplies, the threat of famine has been virtually eliminated in economically developed countries, while modern medicine has provided a measure of protection against disease which was unknown in the past.

The biological power of multiplication of the species has been greatly enhanced by the increased probabilities of survival to and through the reproductive years of life. When expectation of life at birth was no greater than twenty-five years, it took a high reproduction rate merely to replace the population, and growth at such rates as are now being recorded in much of the world was beyond the limits of reproductive capacity. With life expectation at that level and a reproduction rate near the highest level known to have been reached in human populations (such that women surviving to the end of the potentially reproductive period of life would bear eight children on the average), population would grow only at a modest rate of about 1½ per cent per annum. On the other hand, such a reproduction rate with life expectation at seventy years would bring galloping growth at annual rates approximating 5 per cent.[6] Reproduction rates at the levels typical of a majority of less developed countries at present (and probably of most of the world in the past), corresponding to averages of five or six births per woman in a full reproductive life-span, were scarcely more than enough to balance mortality under the former regimes. Now such reproduction rates are generating growth in less developed countries at annual rates of 2 to 3 per cent or higher, which double population in two or three decades.

Moderation of Reproduction Rates

In the countries of more advanced economic development, the change in mortality has been countered by tightening control of reproduction. In the United States, where the average number of births per woman surviving to the end of the reproductive period was probably about seven in the early nineteenth century, it has now been reduced to three; and the average is

[6] Growth rates and other vital indices corresponding to different combinations of reproduction rates and expectation of life at birth in model stable populations are tabulated in detail in: A. J. Coale and P. Demeny, *Regional Model Life Tables and Stable Populations* (Princeton, N.J.: Princeton University Press, 1964).

down to two or a fraction more in several European countries and Japan. Thus the impetus to population growth from the decline of mortality rates has been checked in varying degrees throughout Europe, in the Soviet Union, northern America, Australia, New Zealand, Japan, Argentina, Uruguay, Israel, and a few other areas of relatively advanced economic development. In some cases, the recent decreases of reproduction rates have overbalanced continuing decreases of mortality rates so that the population is now growing somewhat more slowly than it did in the early decades of the present century, while in other cases such a change in the growth trend has not yet been established.

There is little sign as yet of any tendency toward moderation of reproduction rates in the less developed countries, including most of those in Asia, Latin America, and Africa. With few exceptions, the present reproduction rates in those parts of the world appear to be as high as ever; and so, as mortality rates have decreased, their rates of population growth have accelerated incessantly.

The figures in Table 2 sum up the evolution of the contrasting pattern of growth in the less developed and more developed segments of the world and the prospect for its continuation in the decades ahead as indicated by the United Nations projections.[7]

[7] This division between less developed and more developed regions is a crude one. Within Latin America, for instance, Argentina and Uruguay should be placed in the category of more developed areas, while the minority of Oceania's population outside Australia and New Zealand belongs in the less developed category. Such refinements require a more detailed areal classification of historical estimates than the author has attempted. In the United Nations estimates, the totals given for less developed and more developed regions are 1,658 and 858 million, respectively, as of 1950; 2,249 and 1,032 million, as of 1965.

TABLE 2—POPULATION GROWTH IN MORE DEVELOPED AND LESS DEVELOPED REGIONS OF THE WORLD

TIME-PERIODS	LESS DEVELOPED REGIONS (ASIA EXCEPT JAPAN, AFRICA, LATIN AMERICA)	MORE DEVELOPED REGIONS (EUROPE, U.S.S.R., NORTHERN AMERICA, OCEANIA, AND JAPAN)
	Population (Millions)	
1850	925	343
1900	1,088	561
1950	1,682	833
1965	2,288	999
Range of projections for 2000	4,204–5,478	1,245–1,516
	Average Annual Growth Rate (per cent)	
1850–1900	0.3	1.0
1900–1950	0.9	0.8
1950–1965	2.1	1.2
Range of projections for 1965–2000	1.8–2.5	0.6–1.2
	Share of World Total Growth (per cent)	
1850–1900	44	56
1900–1950	69	31
1950–1965	78	22
Range of projections for 1965–2000	86–89	11–14

IMPLICATIONS OF CURRENT AND PROSPECTIVE TRENDS

The crux of the present problem of world population is in the association of persistent poverty and technological retardation with unremitting rapid growth of numbers in the less developed regions. Demographers, economists, sociologists, and the members of other disciplines concerned with the study of these matters cannot yet claim to have defined unequivocally the basic causal

relationships in this disquieting association and what it portends for the future of the economically disadvantaged nations and the world as a whole. Some of the implications, though, can be spelled out clearly enough. One which deserves particular notice is the need for increased international sharing of resources which results from the disproportion in population growth between the "have" and the "have-not" nations as well as from the opposite disproportion in the growth of their income and wealth.

Those who would attempt a long-range view of the future are well advised to turn their eyes also upon the long vista of the past, and there some comfort may be found in the observation that growth of population has played a positive part in the evolution of civilization and economy in the long run. While it is obvious that the increase of man's numbers since the days of prehistoric hunters and food-gatherers has depended on the growth of his power to convert nature's resources to satisfaction of his needs, the same proposition holds equally true in reverse. In the preindustrial phase, a certain numerical strength was prerequisite to the progressive specialization of functions and the growth of cities, those incubators of the arts and sciences, and industrial civilization depends on larger numbers to furnish the labor force for mass-production industries and markets for their products. In fact, as the evolution of technology and forms of economic organization has progressed, both the optimum and the necessary minimum size of population have increased along with the maximum number that could be supported. Increasing population may also, at times, have furnished a motive force for progressive innovations of technology and productive organization, in accordance with the principle that necessity is the mother of invention. Such is the hypothesis proposed by certain economic historians to explain the coincidence of quickening population growth with the advent of the Industrial Revolution in eighteenth-century Europe. It is tempting to hope that the pressures now being generated by growth of population in less developed countries might soon evoke an equally creative response. If the progress of industrialization and related economic and social developments could be greatly accelerated in the near future in the regions of the world that are lagging in these respects, and if numerical stability were attained without a very great delay, the population problem might thereby be solved. On the other hand, if the multiplication of numbers should continue into a more distant future, a more novel response to its imperatives might be required.

Population Projections for the World, Developed and Developing Regions: 1965-2000

By M. A. EL-BADRY*

ABSTRACT: Remarkable gains in man's struggle against disease have brought about an unprecedented growth in world population. This report discusses the recent trends of population growth, in both developed and developing regions, as well as the expected trends up to the end of the present century. The changes in fertility and mortality levels are also presented. The population projections recently prepared by the United Nations, the underlying assumptions, data sources, principal factors of uncertainty, and methods are summarized.

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* The views expressed in this article are those of the author and do not necessarily reflect the opinions of the United Nations.

DEVELOPED countries are rich in statistics, a fact which makes the task of the demographic analyst in these countries less frustrating and more sophisticated. In the developing countries, on the other hand, serious statistical difficulties are usually encountered. Thus, in many of these countries the population has been counted only once or twice, and until now there remain a number of countries whose populations have never been fully covered by a census. Likewise, in several developing countries, registration of the vital events of births and deaths, which is essential for the assessment of the levels of fertility and mortality and for projecting these levels into the future, is nonexistent or too recent to reveal actual trends. The same is true about migration statistics, but this factor is of secondary importance now in the demographic statistics of most of the world regions.

Furthermore, the population census and registration results are seriously deficient in many developing countries. The total census count is usually faulty, generally because of underenumeration, particularly of infants and small children; however, censuses have been known to result in overenumeration as well. Registration of births and deaths, where it exists, is also generally deficient.[1] Coverage is not the only error in population-counting. For instance, it is almost commonplace among the populations of developing countries that age is inaccurately reported. This is usually the result of ignorance, but there are also several ages on which individuals may deliberately misreport.

This is the situation as regards demographic statistics in general, and it is the situation which faces the demographer who, in order to project the total population, would like to apply a more refined technique than merely extrapolating available census totals or borrowing levels and trends observed elsewhere; for, in order to do a fairly good job, the demographer needs to have access at least to information on the total population at the starting-point as well as to information that will enable him to predict trends in the components of population growth: fertility, mortality, and migration.

Doing a satisfactory job, however, requires the availability of more information, the most essential of which is the distribution of the starting population total by age and sex, and the rates of mortality and fertility in each age group. This information on age-sex structure makes it possible to prepare more reliable estimates of future births, since the birth rates vary with the mother's age; a projection of the existing population would also be more reliable, since mortality varies with both age and sex.

During the last fifteen years, the Population Division of the United Nations has prepared projections for different regions,[2] as well as for the whole world. The most recent of these studies is *World Population Prospects as Assessed in 1963*,[3] which is based on the

[1] For instance, little is known about the total population, the structure, and the levels of fertility and mortality in Mainland China, whose population constitutes more than one-fifth of the world total.

[2] United Nations, Population Division, *The Population of Central America (including Mexico), 1950–1960* (Sales No.: 54.XIII.3); *The Population of South America, 1950–1980* (Sales No.: 55.XIII.4); *The Population of South-East Asia (including Ceylon and China: Taiwan), 1950–1980* (Sales No.: 59.XIII.2); and *The Population of Asia and the Far East, 1950–1980* (Sales No.: 59.XIII.3).

[3] United Nations, Population Division (Sales No.: 66.XIII.2). These projections supersede those prepared in earlier United Nations studies, namely: "The Past and Future Growth of World Population: A Long-Range View," *Population Bulletin of the United Nations, No. 1* (Sales No.: 52.XIII.2); "Framework for

data available up to 1963, including the results of population censuses taken in many countries in 1960 and 1961. The present article is based on the latter study and summarizes its general findings concerning population projections in the developed and developing regions of the world.

SUMMARY OF PROJECTIONS FOR THE WORLD AND FOR THE DEVELOPED AND DEVELOPING REGIONS

It is always considered wise to "project" and prepare for what the future is expected to bring. Never before, however, has there been such a great need for projections in the social and economic fields. This is due to the fact that human beings are multiplying at unprecedented rates—brought about by remarkable gains in man's fight against disease accompanied by very little change in the high level of fertility observed in many parts of the world.

Consequently, while the world population increased by about 11 per cent in each of the three decades between 1920 and 1950, this rate suddenly rose to 19 per cent in the 1950's and, according to the United Nations' medium or most plausible projections, it is expected to rise to 20 per cent in the decade of the 1960's. This trend of decennial growth has differed substantially in the developed and developing regions. Thus, in the three consecutive decades beginning in 1920, the rates of growth in the developed regions were 13, 8, and 4, while the corresponding rates in the developing parts of the world were 10, 12, and 12. In the decade of the 1950's, the rates in both areas increased substantially—to 14 per cent in the developed regions and to 22 per cent in the rest of the world. It is estimated that, while the percentage increase in the population of the developed regions will drop to 11 per cent in the 1960's, the population of the developing regions will increase by as much as 24 per cent.

The expected future trends in vital rates, as implied by the United Nations' medium projections, are presented in Table 1. The figures show that in the developed regions the levels of the birth and death rates are expected to undergo very little change during the rest of this century and that the decennial increase, which is 11 per cent in the 1960's, will decrease slightly, to 9 per cent, in the 1990's. In the developing regions, on the other hand, considerable changes

TABLE 1—ESTIMATED AVERAGE CRUDE BIRTH AND DEATH RATES AND RATES OF INCREASE FOR THE WORLD, DEVELOPED AND DEVELOPING REGIONS, 1960-2000

AREA	CRUDE BIRTH RATE	CRUDE DEATH RATE	DECENNIAL INCREASE (PER CENT)
1960-1969			
The World	33	15	20
Developed Regions	19	9	11
Developing Regions	40	18	24
1970-1979			
The World	32	13	21
Developed Regions	19	9	10
Developing Regions	37	15	25
1980-1989			
The World	29	11	20
Developed Regions	19	9	10
Developing Regions	33	12	23
1990-1999			
The World	26	10	18
Developed Regions	18	10	9
Developing Regions	29	10	21

Future Population Estimates, 1950–1980, by World Regions," *Proceedings of the World Population Conference, Rome,* Vol. III (Sales No.: 55.XIII.8); and *The Future Growth of World Population* (Sales No.: 58.XIII.2).

TABLE 2—PROJECTED POPULATION OF THE WORLD, DEVELOPED AND DEVELOPING REGIONS, DIFFERENT VARIANTS, 1965-2000 (IN MILLIONS)

YEAR	THE WORLD	DEVELOPED REGIONS	DEVELOPING REGIONS
"Medium" variant			
1965	3281	1032	2249
1980	4330	1194	3136
2000	6130	1441	4688
"Low" variant			
1980	4147	1153	2994
2000	5449	1293	4155
"High" variant			
1980	4551	1245	3306
2000	6994	1574	5420
"Continued fertility level" variant			
1980	4519	1242	3277
2000	7522	1580	5942

are expected to take place in the main components of population growth. Thus, the death rate, which is currently twice as high as it is in the developed regions, is expected to drop steadily from 18 in the present decade to 10 in the 1990's, by which time it will have attained the same level as that of the developed regions. The medium projections also imply a decrease of one-fourth in the birth rate of the developing regions, from 40 in the 1960's to 29 in the 1990's or, in other words, from a little over twice the birth rate of the developed regions in the present decade to a little over one and one-half times the level of the corresponding rate in the last decade of the century.

These changes in the vital events of the developing regions mean that the decennial rate of increase will continue on the high plateau of 24 per cent in the 1960's and 25 per cent in the 1970's. It is only after 1980 that this increase will drop slightly, to 23 in the 1980's and 21 in the 1990's. In other words, it will only be in the 1990's that the fertility decrease expected in the medium projections will offset the mortality decrease and bring the rate of increase back to what it was in the 1950's.

Let us now briefly discuss the implications of these trends with respect to population totals through the end of the century. The basic results of the projections are shown in Table 2, which gives the total population estimates arising from the different assumptions described later on in this article.

The medium or most plausible projections show that within the remaining years of the twentieth century, world population is expected to increase by 87 per cent, that is, from 3,281 million in 1965 to 6,130 million in 2000. The percentage increase will be 66 if the assumptions of the "low" variant turn out to be true, but this percentage may prove to be as high as 113 if the "high" variant assumptions are valid. The "low" and "high" variants represent what may now be considered in the light of available information to be the possible lower and upper boundaries of the estimates. All these variants assume some fertility decrease in the developing regions, failing which, as the "continued fertility level" variant shows, the world total will score another 1,392 million above the "medium" variant projection and become 7,522 million by the end of the century. In this case, it will be noticed, the increase during the remainder of the century will be 129 per cent of the 1965 world total.

The trends of growth will obviously be far from parallel in the developed and the developing regions. In fact, if, again, we put more confidence in the "medium" projections, Table 2 shows that while in the developed regions the

increase over the 1965 total is expected to be 16 per cent by 1980 and 40 per cent in the year 2000, the corresponding percentage increases in the developing regions will be 39 and 108, respectively. These latter figures more or less represent the expected population growth in many developing countries and reflect a situation which should be given serious consideration in the planning of human resources, on the one hand, and of food, education, health, housing, and other services, on the other. It should also be borne in mind that the percentage increase in the population of the developing regions, as well as the discrepancy between this increase and that of the developed regions, may be much larger if the anticipated fertility decline does not occur. As may be seen in Table 2, a continuation of the current levels of fertility until the year 2000 would result in an increase of 53 per cent in the developed regions and 164 per cent in the developing regions.

The influence of the current changes in the levels of fertility and mortality which world population is undergoing will not be confined to the total size of the population. Indeed, age structure will be changed, and, consequently, corresponding changes will take place in such important demographic variables as the proportions of the economically active population, the number of dependent children and dependents who are of retirement age, the school-age population, and females in the childbearing ages. The main changes in the age structure until the turn of the century may be summarized very briefly as follows: the medium projections show that the proportion of children of ages 0–14 in the developing regions, which is currently about 40 per cent, is expected to change only very little up to the end of the decade of the 1970's and then, with the expected fertility decline, this percentage would drop to 35 in the year 2000. The corresponding proportion in the developed countries, which is already much lower, is expected to drop further, from 29 in 1960 to 26 in 2000. At the other end of the age-distribution spectrum, the projections show that world population in general is undergoing a process of aging. In the developing regions, the very low percentage of population aged 65 or over is expected to rise from 3 in 1960 to 5 in 2000, and the much higher percentage in the developed regions will probably rise further, from 8 to 11, during the same period. With respect to the age group 15–64, the ages of economic activity, the proportion of the population of the developed regions will remain virtually unchanged—63 per cent—while in the developing regions this proportion will increase from 57 per cent to 61 per cent. For the total world population, it can be forecast on the basis of the projections that the proportion of children aged 0–14 will decrease by about 10 per cent, the proportion of the working-age population will increase slightly, that is, by about 4 per cent, and the proportion of the aged population will increase by over 30 per cent.

METHODOLOGY

Official data on population size, age-sex composition, levels of fertility and mortality, and migration, as available in United Nations statistical publications,[4] were utilized, whenever they were found reliable, in the preparation of the projections. For many parts of the world, however, a considerable adjustment of basic demographic data had to be made before they could be utilized in the projections.[5] Where registration

[4] Particularly the *Demographic Yearbooks*, the *Population and Vital Statistics Reports* (Statistical Papers, Series A), and the *Monthly Bulletin of Statistics*.

[5] An important adjustment is that of the underenumerations of children aged 0–4 years,

statistics were missing or obviously deficient, analytical methods [6] were utilized to estimate the level of fertility. Conversely, when the levels of fertility and mortality were known or reliably estimated, but the age composition was deficient or lacking, analytical methods [7] were again used to construct a model age distribution.

For the purposes of this study, the world was divided into twenty-four geographical regions on the basis of demographic characteristics and the degree of accuracy of demographic statistics, and also in such a manner that they could be grouped into the categories of developed and developing areas.

In each of the twenty-four regions, the projection up to the year 2000 was carried out as follows: (1) appropriate model life tables, giving the probabilities of survival during a five-year period for persons of different age-sex groups,[8] were applied to the initial age-sex distribution of 1960, which was prepared in five-year age groups, thus giving the number of survivors of these groups in 1965; (2) the number of children below five years of age in 1965 was derived from the number of births during 1960–1965 multiplied by the model-life-table probability of survival from birth to the 0–4 age group. The number of births itself is estimated by applying certain weights to the number of females in the child-bearing age groups;[9] (3) in the regions where international migration is still sizable, an adjustment was made in the total projected population; (4) this procedure was repeated for consecutive five-year periods until 2000, in accordance with the following assumptions concerning mortality, fertility, and migration.

In the projection of mortality levels, it was assumed that a population would gain annually an average of half a year in life expectation at birth until this life expectation attains 55 years; between the expectations of 55 and 65 years, the model assumption implies a slight acceleration in gains, followed by a slowdown, and the gain becomes negligible when the expectation has risen above 74 years.[10] This general pattern is based on the observed rapid decrease in mortality which is now occurring in developing countries, and also on the experience of developed countries where mortality decline has become very slow. In a few regions, more than one set of rates of decline were assumed, giving rise to different projections.

The projection of fertility is much more difficult than that of mortality because the factors influencing fertility, as well as the interaction among these factors, are not understood well enough to make it possible to predict their future effects. A major difficulty here is to

which is considerable in some censuses and surveys. One method of correcting this deficiency is to estimate the original size of the birth cohort (during the five years preceding the census) and to subtract from it the estimated number of deaths that took place among the cohort. For a discussion of basic methods of adjusting demographic statistics see: United Nations, *Methods of Population Projections by Sex and Age* (Sales No.: 56.XIII.3).

[6] Mainly the "reverse projection" method, whereby the number of children enumerated in the census is augmented by the inverse of the probability of their survival since their birth in order to estimate the total size of their birth cohort, and hence the birth rate.

[7] Mainly the stable-population method.

[8] These model life tables were prepared on the basis of reliable life tables that had been prepared for countries in different parts of the world. The model tables are identified by the corresponding expectation of life at birth (both sexes) in years. See: United Nations, *Methods of Population Projections by Sex and Age, op. cit.*

[9] The weights are normally the age-specific fertility rates. The United Nations Population Division has been using simpler weights, however, whose application leads to the "sex-age adjusted birth rate" rather than to the ordinary crude birth rate (*Ibid.*, p. 42).

[10] *Ibid.*, p. 28.

decide when fertility control will be adopted in each of the developing regions; the experience of the developed areas of the world is not very decisive in this respect, since the fertility declines which have taken place have occurred at different times and at different speeds.

For many of the regions in which fertility has not yet started to decline, the general assumption made in the United Nations projections was that once it starts to decline, it takes thirty years to drop to half its original level.[11] As to the speculative date of onset, different assumptions were made for each region.[12] These different dates, combined with the different assumptions concerning the duration of decline, gave rise to "high," "medium," and "low" projections. In the developed regions, where the recent fertility levels have proved to be rather unstable, corresponding "high" and "low" assumptions have been made to take account of the possibility of future variations within the already observed range. The "medium" assumption has generally been formulated with reference to assumptions made in the available national projections.

Migration was introduced only into the projections of the regions of Europe, the Americas, and Oceania.[13] It was assumed that migratory balances would remain at a constant level up to 1980, after which they would diminish linearly to zero by the end of the century. Adjustments in the projected total population which arise from migration were also calculated according to a greatly simplified model.[14]

Three sets of future estimates were thus prepared for each region. The "medium" estimates represent what now appears most plausible in view of what is known of past experience and present circumstances in each region. The "high" and "low" variants are intended to represent plausible upper and lower boundaries, and the range between these two variants can be taken to reflect the degree of uncertainty in the estimates. It must be emphasized, however, that future trends outside these two variants are by no means impossible. In addition, a "continued fertility level" variant was calculated, in which the current fertility level was assumed to continue in the future. Comparison between this last variant and the other three projections shows the approximate extent to which each of the three projections is influenced by the fertility declines assumed therein.

[11] This period was extended to 45 or 60 years in some instances.

[12] In making these assumptions, evidence of economic and social changes as well as of the existence of public policies was taken into consideration.

[13] It was assumed that between 1960 and 1980 the annual emigration from Europe would be 230,000 individuals. The assumption comprises a net annual immigration of 40,000 (mostly from Europe) to Temperate South America, and an equally large emigration (mostly to the United States) from the Caribbean and the Middle American Mainland.

[14] It was assumed that an annual migratory balance of 1,000 individuals would entail, within a ten-year period, a demographic gain (or loss) of 12,000 individuals and that by the end of three subsequent ten-year periods this amount would increase to 15,000, 18,000 and 20,000, respectively.

The Control of Mortality

By T. E. Smith

Abstract: Expectation of life at birth has nearly doubled in the more developed countries in the last 150 years, and now often exceeds seventy years. Better water supplies and sanitation, the effective control of dangerous infectious and parasitic diseases, and higher living standards and educational standards have all contributed to this improvement. In the developed countries, death rates are now very low for all age-groups except the older adults. Accidents are the major cause of death of teen-age children and young adults, while heart diseases and cancer are responsible for the deaths of over half of older people. A feature of the reduction in death rates has been the increased excess mortality of males. There have also been big and rapid reductions in death rates in many developing countries, even in the absence of important improvements in living standards. Antibiotics and insecticides have made a major contribution to this movement in the last twenty years. It is unlikely that death rates will fall as rapidly in the next few decades as in the recent past in either developed or developing countries.

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THE circumstances of death, as the inevitable termination of human life, have changed out of all recognition in the past one and a half centuries. Until the early nineteenth century, the death of one out of every four or five infants in the first year of life was common experience, and expectation of life at birth [1] was seldom more than thirty to forty years. At present, ninety-eight out of every hundred infants survive the first year of life in many of the countries of Europe, North America, and Oceania, while in much of Asia and Latin America and in some parts of Africa there have been big declines in infant mortality. Partly as the result of this much lower infant mortality and partly as the result of lower mortality rates for older age-groups, expectation of life now exceeds seventy years in the healthiest countries and is well in excess of fifty years in many countries with relatively low standards of living. The annual death roll in areas of low birth and low death rates now consists of the elderly for the most part; in the technically most advanced countries of Europe, 65 to 70 per cent of all deaths now occur in persons over sixty-five years of age, in contrast to the earlier position of communities with high birth and high death rates in which a considerable proportion of the deaths were those of infants and young children. Where the birth rate remains very high and the population consequently remains young, and where the death rates are at a level such that expectation of life at birth is in the region of forty to forty-five years, deaths appear to be divided in roughly equal proportions between children and adults. For example, in Egypt for the period 1936–1940, when expectation of life at birth was less than forty years, 55 per cent of all deaths occurred in persons under five years of age.

The main causes of death have changed and continue to change with the rising expectation of life and new discoveries in the fight to control diseases. In most of the countries with low death rates the cancers and heart diseases have become the principal causes of death, whereas a few decades ago tuberculosis ranked first as a cause of death. For instance in Czechoslovakia at the beginning of the twentieth century, 15 per cent of all deaths, and 60 per cent of deaths of persons between twenty and thirty years of age, were caused by tuberculosis.[2] Cholera, plague, diphtheria, smallpox, typhoid fever, scarlet fever, and other dangerous infectious and parasitic diseases are in most parts of the world no longer the mortal scourges they once were.

Mortality Reductions in Developed Countries

The damage to human life which has at times been caused by war, famine, and disease can be simply illustrated by a few examples. The Taiping rebellion in China in the 1850's is thought to have led to the deaths of 30 million people. In Ireland, the Great Famine of 1846–1847 caused close to one million deaths out of a population of eight million as the result of starvation and accompanying diseases. The influenza epidemic of 1918 caused 15 million deaths in a population of just over 300 millions in the Indian subcontinent alone.[3] In all countries, the cities tended to be such insanitary and unhealthy places, until

[1] Expectation of life at birth measures the average number of years of life for the individuals in a population, assuming static death rates for every age-group of each sex.

[2] J. Radkovsky, "The Share of Tuberculosis in Total Mortality in Czechoslovakia," in *Proceedings of the International Population Conference* (Vienna, 1959).

[3] Kingsley Davis, *The Population of India and Pakistan* (Princeton, N.J.: Princeton University Press, 1951), p. 33.

well into the nineteenth century, that urban death rates were usually far higher than rural death rates. In general, while medicine remained an undeveloped science and the mass of the population had a low level of living, death rates were always very high by current standards, and the occasional disasters, whether caused by disease, war, or famine, resulted in periods of actual population decline.

It was only in the second half of the nineteenth century that the average expectation of life at birth in the countries of western Europe, North America, and Oceania began to rise much above forty years. Average expectation of life in Denmark, England and Wales, France, the Netherlands, Norway, Sweden, and the State of Massachusetts in the United States was forty-one years in 1840 and had advanced only as far as 43.5 years by 1870.[4] Outside these areas, high mortality rates and a correspondingly low expectation of life continued to be the general experience throughout the nineteenth century. For instance, expectation of life at birth in 1896–1897 in European Russia was only about thirty-two years.

The early mortality decline in the more advanced countries was associated with rising standards of living, including better diets, improved environmental sanitation, and the provision of safe water supplies, particularly in the cities; the introduction of smallpox vaccination and other advances in medicine; and the virtual elimination of famine, even on a local basis, as the result of high agricultural productivity and improved communications. A recent analysis[5] of the reduction in death rates in England and Wales in the nineteenth century has revealed that almost the whole of the decline could be attributed to fewer deaths caused by tuberculosis, typhus, typhoid, scarlet fever, cholera, and smallpox, those particularly affected by the improvement being persons over the age of one and under forty-five. The reduction in deaths from tuberculosis accounted for nearly half of the total mortality reduction, and this led the authors to the conclusion that the rising standard of living was the most influential factor in the decline. On the other hand, a prominent American expert holds the view that

> the great mortality movements of the West appear to have been initiated by medical advances, particularly as applied by governments. Improving economic conditions were important, but much more as permissive elements than as precipitating factors.[6]

Continuing research on nineteenth-century demography may lead to an improved evaluation of the relative importance of the social, economic, and medical factors involved in the mortality decline; such research is, however, necessarily difficult, because of the geographical and historical limitation of usable mortality statistics, and particularly cause-of-death statistics.

The pace of the mortality decline accelerated in the first half of the twentieth century, and a growing number of countries were involved. In general, the slower starters among the more de-

[4] *Population Bulletin of the United Nations*, No. 6, Table IV.1, p. 49.

[5] Thomas McKeown and R. G. Record, "Reasons for the Decline of Mortality in England and Wales during the Nineteenth Century," in *Population Studies*, Vol. XVI, No. 2 (November 1962), pp. 94–122.

[6] George J. Stolnitz, "Comparison between Some Recent Mortality Trends in Underdeveloped Areas and Historical Trends in the West," in *Trends and Differentials in Mortality* (New York: Milbank Memorial Fund, 1956), pp. 26–34. For a more detailed discussion by the same author, see "A Century of International Mortality Trends," Part I, *Population Studies*, Vol. IX, No. 1 (July 1955).

veloped countries experienced a more rapid decrease in death rates and hence a more rapid rise in life expectancy than had those countries which led the field. For instance, expectation of life at birth in Czechoslovakia had only reached about forty years at the turn of the century, compared with fifty or more in Scandinavia; in the mid 1950's, the Scandinavian peoples were still among those with the lowest death rates in the world, but their expectation of life (about seventy-two years) exceeded that of the population of Czechoslovakia by only three years.

MORTALITY REDUCTIONS IN DEVELOPING COUNTRIES

In developing countries, as in the industrially more advanced countries, there has been considerable variation in the rapidity of the decline in mortality and in the factors associated with it. It has sometimes been assumed that very high death rates persisted in all developing countries until the use of antibiotics and insecticides became widespread after World War II. This is not, in fact, the case; countries as widely separated as Malaya and Jamaica have long enjoyed an effective public health organization and good urban sanitation, and mortality had been gradually declining in those countries for some decades before the war. In many tropical and subtropical countries, however, malaria eradication programs and other public health measures since the war have made a major contribution to the reduction of the death rate. Ceylon and Mauritius are good examples of the spectacular effect of such programs in compact, fairly densely populated countries; in both of these countries, crude death rates [7] are only about one-third of their prewar level. The reduction in Ceylon in recorded crude death rates has been from 24.5 for 1935–1939 to a current level of about 8.5, and in Mauritius, from 27.3 for 1935–1939 to about 8.6. More recently, malaria eradication has been a factor in the continued gradual reduction of the death rate in India. Many writers have pointed out that the declines in mortality in developing countries have not, for the most part, been accompanied by improvements in living standards, and can therefore be attributed entirely to advances in medical and health work. It should be noted, however, that there have, at the same time, been very considerable advances in education and in road communications in these countries, and it seems doubtful whether mortality reduction would have been so rapid in the absence of educational development and improved infrastructure.

MORTALITY BY AGE AND SEX

How has the mortality decline affected different age-groups of each sex? In the first place, mortality rates for females at all ages are, in general, lower than the corresponding rates for males in countries of low mortality, and the decline has had the effect of increasing male excess mortality. In the United States, for instance, it has been calculated by the use of age-adjusted death rates that the ratio of male to female mortality rose from 1.08 in 1920 to 1.60 in 1958, the largest increases in the ratio by age-groups affecting those between fifteen and twenty-four and between forty-five and sixty years of age.[8] An examination of death rates in the

[7] The crude death rate measures the number of deaths in a given year per one thousand population living in the middle of the year.

[8] P. E. Enterline, "Causes of Death Responsible for Recent Increases in Sex Mortality Differentials in the United States," *Milbank Memorial Fund Quarterly*, Vol. XXXIX, No. 2 (April 1961), pp. 312–328.

TABLE 1—AGE SPECIFIC DEATH RATES FOR EACH SEX. (RATES PER 1,000 POPULATION OF SPECIFIED SEX AND AGE)

AGE	MAURITIUS 1960	UNITED STATES 1959	JAPAN 1959	FRANCE 1960	MALAYA 1957
			Males		
Under 1	86.3	33.3	37.0	31.5	109.9
1–4	9.8	1.2	3.0	1.3	11.4
5–9	1.7	0.6	1.1	0.5	3.1
10–14	1.1	0.6	0.7	0.4	1.8
15–19	1.5	1.3	1.2	0.9	2.3
20–24	1.7	1.8	2.2	1.2	3.1
25–29	1.9	1.7	2.3	1.6	3.7
30–34	3.3	2.1	2.5	2.1	4.8
35–39	4.4	2.9	3.0	2.7	6.4
40–44	8.2	4.6	4.2	3.9	9.0
45–49	13.5	7.5	6.4	6.6	13.7
50–54	26.2	12.2	10.2	11.0	18.0
55–59	33.5	18.8	16.8	16.9	30.9
60–64	54.3	27.7	25.9	25.6	39.0
65–69	67.3	43.6	41.8	37.4	66.6
70–74	79.6	62.8	67.5	57.9	
75–79	147.4	86.0	107.6	92.6	100.1
80–84	263.3	132.1	162.5	149.4	
85 plus	150.0	203.1	241.0	258.6	
			Females		
Under 1	70.4	25.6	30.6	23.9	84.6
1–4	11.6	1.0	2.6	1.1	11.2
5–9	2.3	0.4	0.9	0.3	3.3
10–14	0.8	0.3	0.5	0.3	1.8
15–19	2.0	0.5	0.8	0.4	3.0
20–24	4.4	0.7	1.4	0.7	4.2
25–29	4.9	0.9	1.7	0.8	5.6
30–34	4.4	1.3	2.0	1.1	6.4
35–39	6.3	1.8	2.4	1.6	7.9
40–44	6.2	2.7	3.2	2.3	8.7
45–49	5.4	4.1	4.5	3.6	12.1
50–54	11.3	6.2	6.8	5.3	12.7
55–59	17.3	9.4	10.3	7.7	25.1
60–64	32.9	14.4	15.7	12.0	26.0
65–69	54.5	24.3	26.6	19.9	48.8
70–74	57.8	39.1	45.9	34.0	
75–79	111.4	59.1	77.7	60.9	81.0
80–84	216.3	105.6	123.6	108.9	
85 plus	310.6	203.3	200.9	206.3	

Source: *United Nations Demographic Yearbook 1961.*

United States by cause of death revealed that trends in motor vehicle accidents, maternal mortality, and tuberculosis mortality could largely account for the changed ratio for the younger of these groups, while trends in deaths due to cancer and heart diseases were important causes for the increase for the

older age-group. In some of the countries of high mortality in South Asia, there is still female excess mortality at some ages, but cause-of-death statistics are too poor to establish with confidence the reasons for this state of affairs.

When the decline of mortality in modern times is studied with regard to different age-groups, it is found that the greatest reductions in death rates have been those affecting children and the younger adults, and that the death rates of the elderly have been cut down in smaller proportions. When expectation of life at birth increases from thirty to seventy years, mortality of persons up to about the age of forty is reduced by 90 per cent or more, the percentage reduction slowly declining with age, while at age seventy-five the reduction would be likely to be of the order of one half only. In the words of a United Nations publication: "More has been accomplished in eliminating premature death than in lengthening the life-span of persons who survive beyond middle age."[9] Age-specific death rates for each sex are compared for a few countries in Table 1. It will be seen that the risk of death is usually lowest for the ten-to-fourteen-year age-group.

VARIATIONS IN MORTALITY BY ECONOMIC AND SOCIAL STATUS

Mortality differentials still persist in many countries between socioeconomic groups, between different ethnic groups in the same country, and between urban and rural populations. Such differentials are, however, usually on a much reduced scale when compared with the prewar position. For children, the general rule is still that those whose parents are well-off socially and economically have a better chance of survival than those whose parents are poor. A recent analysis of infant mortality levels by social class in England and Wales has shown that the inverse relationship between infant mortality and class still persists, though the gap has narrowed in recent years. The author of this analysis[10] attributed the variation to such matters as housing, parents' educational level, and parents' own health and physique rather than to wealth as such. One result of the arrival of the "affluent society" seems, however, to be a tendency for the middle-aged of high socioeconomic status to suffer a death rate above that of those at a lower socioeconomic level. For instance, a study of occupational and social class differences in the United States found that, above the age of fifty-five, death rates for professional workers were greater than those for technical and administrative workers, and those for skilled workers greater than those for semiskilled.[11]

Differentials in mortality between ethnic groups exist in almost all countries in which two or more races live side by side without much intermarriage. In the United States, for example, the death rates of nonwhites are higher than those of whites for all age-groups up to middle age and for all occupational classes. A similar situation is to be found in Malaysia where death rates for Malays are considerably higher than those for Chinese, and in New Zealand where age-specific death rates for Maoris are higher than those for the whites, though crude death rates for Maoris

[9] *Population Bulletin of the United Nations*, No. 6 (New York: United Nations, 1963), p. 53.

[10] J. N. Morris, "Some Current Trends in Public Health," in *Proceedings of the Royal Society*, Vol. 159B (London, December 1963), pp. 65–86.

[11] Iwao M. Moriyana and Lillian Guralnick, "Occupational and Social Class Differences in Mortality" in *Trends and Differentials in Mortality* (New York: Milbank Memorial Fund, 1956), pp. 61–73. Further research on these differentials is now being undertaken at the Population Research and Training Center of the University of Chicago.

and whites are approximately equal owing to the younger age structure of the Maoris. In all three instances cited, the poorer community has the higher mortality rate, but cultural differences almost certainly are important, as well as the differences in wealth.

Differences in mortality experience between urban and rural areas and between different regions in the same country form a fascinating field of study. In the nineteenth century, as has been noted, death rates were higher in urban than in rural areas in those countries for which statistics are available. The situation has now changed to some extent, but not completely. In Sweden, for instance, women now enjoy a higher expectation of life in the cities than in the rest of the country, but the reverse is the case for the men. In some of the developing countries, the cities do better than the rural areas, but in others the opposite is true.[12] Poor communications and inadequate health services in parts of the rural areas are sufficient to account for some of the regional differences in mortality within developing countries, but they do not explain regional differences in cancer mortality in countries such as Japan and the Netherlands; here, soil conditions are believed to be partly responsible. The general tendency in the more developed countries seems, however, to be in the direction of national uniformity in mortality.

These differences within nations are the complement of differences between nations. The longest-lived peoples in the world are still, on the whole, those who, nationally speaking, are in the upper income bracket, though there is not an exact correspondence between the league table of expectation of life at birth and that of national income per head. The United States is behind quite a few European countries, as well as New Zealand, in the former table. It is, however, correct to say quite unequivocally that the average life expectancy in the less developed countries of the world is still much lower than in the economically more advanced countries, despite the fact that the gap has been narrowed in recent years.

[12] For a discussion, see G. Z. Johnson, "Health Conditions in Rural and Urban Areas of Developing Countries," *Population Studies* Vol. XVII, No. 3 (March 1964), pp. 293–309.

THE PRESENT SITUATION

The position now is that, in the more developed regions of the world, crude death rates range between seven and twelve deaths per one thousand population per annum, and expectation of life at birth exceeds sixty-five years in virtually all the countries of these regions, and exceeds seventy years in a number of them. In the developing areas of Asia, Africa, and Latin America, the country-by-country range is much wider, but regional average crude death rates vary from a low of about ten for temperate South America to the mid-twenties for central and western Africa. Some of the developing countries can claim lower crude death rates than those of many European countries, but the age-specific mortality rates of the European countries are, nevertheless, lower. The higher average age of European population as compared with that of developing countries explains this paradox and emphasizes the danger of relying on crude death rates as a measure of mortality when comparing one population with another.

The expectation of life at birth of countries in Asia (other than Japan and Israel) and South America varies between the lower and upper limits of forty and sixty-five years. In Africa, life expectancy at birth is in some countries below forty years, and there are probably very few African countries

TABLE 2—MEASURES OF MORTALITY FOR SELECTED COUNTRIES

COUNTRY	YEAR	CRUDE DEATH RATE	INFANT MORTALITY RATE	EXPECTANCY OF LIFE AT BIRTH		
				Date	Males	Females
1. Sweden	1964	10.0	13.6	1962	71.32	75.39
2. Netherlands	1964	7.7	15.8	1956–60	71.4	74.8
3. New Zealand	1964	8.8	19.1	1955–57	68.2	73.0
4. United States	1964	9.4	25.2	1963	66.6	73.4
5. U.S.S.R.	1963	7.2	30.9	1960–61	65	73
6. Japan	1964	6.9	20.4	1963	67.21	72.34
7. Italy	1964	9.6	35.5	1954–57	65.75	70.02
8. Portugal	1964	10.2	73.1	1959–62	60.73	66.35
9. Taiwan	1964	5.7	26.4	1959–60	61.33	65.60
10. Trinidad	1963	6.7	38.5	1957	59.88	63.35
11. Malaya (former Federation of)	1963	8.9	56.7	1956–58	55.78	58.19
12. India	1951–61	22.8	139	1951–60	41.89	40.55

Source: *United Nations Demographic Yearbook, 1964*, Table 3. (See notes to that Table for bases of data of individual countries.)

in which it exceeds fifty years. In the developing countries, however, estimates of present levels of mortality must necessarily be subject to a very wide margin of error, owing to fragmentary coverage or the complete absence of registration of deaths. Examples of current measures of mortality in selected countries with reasonably good vital statistics are given in Table 2; this selection necessarily excludes countries with the highest death rates, because these countries do not possess adequate statistics for the calculation of expectation of life at birth, infant mortality, and other rates. Thus, no African countries appear in Table 2, though estimates of mortality rates for some of them have been made on the basis of sample survey data of questionable accuracy.

CHIEF CAUSES OF DEATH

In order to examine the prospects for further improvement in life expectancy in each of these two groups of countries, a closer look at the chief causes of death and at current trends in age-specific mortality is required. Considering first the countries with the lowest death rates, one finds that infant mortality is now at the very low level of fifteen to twenty infant deaths per one thousand live births, and looks like staying at much about this level until further progress is made in reducing deaths due to birth injuries and congenital malformations. In these very low mortality countries, deaths in infancy and early childhood attributable to environmental factors and lack of infant care have all

but disappeared. In later childhood and the earlier decades of adult life, deaths caused by violence, most of which are accidental, predominate; indeed, for the fifteen to twenty-four age group, in particular, the much bigger risk of males than of females dying from violence leads to age-specific death rates for males which may be up to three or four times as high as those for females. In low mortality countries, the reduction of mortality for the older children and younger adults thus depends largely on progress in reducing accidental deaths, particularly ths on the roads. The possibilities of reducing deaths from motor vehicle accidents in the United States can be illustrated by comparing the record with that of countries such as Sweden, the United Kingdom, and New Zealand. In 1964, 24.5 persons in every 100,000 died as a result of motor accidents in the United States, compared with 15.3 in the United Kingdom, 16.5 in New Zealand, and 17.5 in Sweden.[13]

Deaths due to violence increase with age after childhood, but not so rapidly as mortality rates from all causes, so that at the older ages violent deaths form quite a small proportion of total mortality. When life expectancy at birth exceeds seventy years, deaths caused by heart disease and cancer form about half of total deaths at all ages, and the proportion is well in excess of one half for the older age groups. In the countries of low mortality, the prospects for further reduction in mortality rates for the elderly must, therefore, be measured largely in terms of decreases in mortality from cancer and heart diseases. On the basis of trends in the last few years, the prospects, particularly for the older men, do not look particularly bright. Above age sixty-five years for men and seventy-five years for women, mortality from diseases of the heart has increased in recent years, and between the ages of forty-five and sixty-five has remained about static, though there is, of course, considerable variation between different countries with low death rates. Men above the age of forty-five years have also suffered increased death rates from cancer recently in some of the low mortality countries, though the rates for middle-aged and elderly women have declined in line with the general decline in mortality from all causes. So prominent among the causes of death are the heart diseases and the cancers that one calculation made at the 1965 World Population Conference in Belgrade was to the effect that the total elimination of all other causes of death in the countries of low mortality would not increase expectation of life at birth by more than ten to twenty years. Clearly, no further major reductions in adult mortality in these countries can be expected in the absence of major breakthroughs in the treatment of the cancers and the heart diseases. At present, treatment of the heart diseases, which cause more deaths than the cancers, has the effect of postponing death, and not of curing the disease.

[13] For a discussion of world-wide trends in motor vehicle accident fatalities, see the *Statistical Bulletin* of the Metropolitan Life Insurance Company, Vol. 47 (May 1966), pp. 1–3.

FUTURE PROSPECTS

In some of the developing countries the pace of mortality decline appears to have slackened in the last two or three years, and the question which demographers are naturally asking is whether important improvements in living standards are a necessary condition for any further large reductions in the death rate. Is there, in other words, some kind of a barrier in the process of mortality decline beyond which populations with an average per capita income

of less than a very few hundred dollars per annum cannot be expected to go? Or can the use of the most modern medical and public health techniques reduce mortality rates in the developing countries to the lower European levels in the absence of any improvement in economic conditions? No definite answers can be produced, but it seems likely, on present trends, that mortality decline in the developing countries, as in the countries of currently low mortality, will proceed at a slower pace in the next few decades than in the twenty years since the end of the Second World War.

The Character of Modern Fertility

By NORMAN B. RYDER

ABSTRACT: One characteristic shared by all modern industrialized and urbanized nations is low fertility. From different initial levels, beginning at different times, the birth rates have declined slowly in some industrialized and urbanized countries and rapidly in others, but have now settled down on a common low plateau a little above what is required for replacement. The regulation of fertility has been achieved by widely variant strategies, involving different combinations of nuptiality control, contraception, and abortion. In every case the small family size has represented the intent of the individual couple and not the guidance of government or church. The explanation of fertility decline advanced here places stress on a normative change in the relationship between parents and children under conditions of declining mortality and urban economic development. Although the fertility of modern industrialized and urbanized nations is not expected to change much in the long run, these societies will probably have difficulty in avoiding costly fertility fluctuations and in keeping the reproductive goals of individual couples from eventuating in too little or too much population growth.

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IN the past hundred and fifty years, all countries which are now urbanized and industrialized have experienced a transition from a relatively high to a relatively low fertility pattern. Differences in reproductivity within this set of nations through time have been a consequence primarily of the differing dates at which they embarked on the diminution of childbearing, and these in turn were largely reflections of the extent of modernization of the country. The general character of the socioeconomic development has prescribed a single low modern fertility level.

In this essay we describe the movements of the relevant demographic indices during this transition, outline the variant modes of fertility regulation responsible for these changes, develop an argument concerning the etiology of transition, and speculate on the future of modern fertility.[1]

THE BIRTH RATE

A crude birth rate of 30 per thousand per annum dichotomizes fertility levels conveniently between high and low.[2]

[1] The task has been simplified by contributions to the subject from many participants in the World Population Conference, Belgrade, 1965. In addition, the author is indebted to the writings of Ronald Freedman and Kingsley Davis. See, for example, Kingsley Davis, "The Theory of Change and Response in Modern Demographic History," *Population Index* 29 [4] (October 1963), pp. 345–366; Ronald Freedman, "The Sociology of Human Fertility," *Current Sociology*, 10/11 [2] (1961–1962), pp. 35–68; Ronald Freedman, "Norms for Family Size in Underdeveloped Areas," *Proceedings of the Royal Society*, B, 159 (1963), pp. 220–245.

[2] The crude birth rate for a population is the ratio of the number of live births occurring within a specified time period to the number of person-years of exposure of the total population, expressed conventionally on a per thousand basis. For interpreting various values of the crude birth rate in terms of the life cycle, it is approximately true that the average number of births per married couple is one-sixth of the birth rate.

TABLE 1—DECADE OF TRANSITION TO LOW FERTILITY

1830's:	France
1840's:	Ireland
1880's:	Switzerland, Belgium
1890's:	Sweden, Denmark, England and Wales, Scotland, Australia, New Zealand
1900's:	Netherlands, Norway, Germany, United States
1910's:	Canada, Finland, Austria, Hungary, Czechoslovakia
1920's:	Italy, Spain, Portugal
1930's:	Poland, Bulgaria, Rumania
1940's:	Soviet Union
1950's:	Yugoslavia, Japan

The nations of the world today are sorted into two clusters with respect to their birth rates: the less developed nations with rates well above 30; the more developed nations with rates well below 30. The data employed in this paper concern twenty-eight modern nations, selected on the criteria of low fertility, substantial population size, and good information covering a reasonable span of time.[3] These nations are listed in Table 1, showing the decade in which the birth rate of each passed permanently below the value of 30.

Although these countries have all participated in the decline of the birth rate, their particular paths towards low fertility have differed in various ways. For example: They did not begin their decline from a common high level: birth rates were much higher in eastern than in western Europe. Nor did they experience the same tempo of transition: the more recently the nation embarked on decline, the more rapidly the birth rate was to fall. Japan accomplished in a few years what it had taken England many decades to do.

[3] The notable omissions are Argentina, Greece, Israel, and Uruguay. Nothing said here would have to be changed appreciably by what is known of fertility movements in these four countries.

TABLE 2—MEDIAN CRUDE BIRTH RATES AND INTERQUARTILE DEVIATIONS, 1900–1965

PERIOD	MEDIAN	I.Q.D.
1900–04	31.7	6.7
1905–09	31.0	6.3
1910–14	28.9	8.4
1915–19	24.0	6.4
1920–24	26.0	9.1
1925–29	23.0	11.3
1930–34	19.7	10.9
1935–39	19.4	7.3
1940–44	20.4	4.2
1945–49	22.4	5.7
1950–54	21.6	6.4
1955–59	18.8	5.9
1960–64	18.4	4.6
1965	18.3	2.6

The data are adequate to permit a detailed appraisal of movements since 1900. Table 2 contains two convenient measures of these changes for the set of twenty-eight nations: the median birth rate and its interquartile deviation.[4]

Two major changes are manifest in Table 2. First, the median has declined continuously (by more than 40 per cent since 1900) except for the experience at the ends of the two world wars, and a trough coincident with the depression. Second, the dispersion among the countries rose to a peak in the middle of the era, and has since declined steadily, again except for the wartime periods. An examination of movements of the crude birth rate nation by nation provides one important footnote. It appears that almost every nation has experienced a small rise following its era of major decline, although the disturbing effects of the depression and the Second World War often obscure the slight revival.

Thus, the observations support the basic thesis of decline accompanying modernization and spreading from nation to nation until all are lodged firmly within the low-fertility category. In 1965 no country in the group considered as "modern" had a birth rate as high as 23; in 1900 only France was (a little) below this figure. Certainly there is diversity in the paths followed by individual nations—no less could be expected of societies with widely variant traditions and with differential exposure to war, revolution, and migration. What is surprising is the extent of current equality. As for the concave shape of the time series for the interquartile deviation, this is what would be expected in a model in which nations are successively transferred from the higher to the lower fertility category.

REFINEMENTS OF THE BIRTH RATE

The crude birth rate may give a distorted view of fertility variations through time and space because its level depends on the numbers of women in each childbearing age relative to the total population. The index customarily used to obviate this impediment is the gross reproduction rate.[5] Table 3 presents the distribution of modern countries by gross reproduction rate as estimated for 1965. Thus, with two high and two low exceptions, the gross reproduction rates are now concentrated within some 20 per cent of the mean value of 1.30. The conclusion that their fertility is highly similar has not been modified by introducing a control for differences in age distributions.

The gross reproduction rate does provide an important corrective to some false impressions derived from birth rate variations. Between the late 1930's and

[4] The median birth rate is that which divides the list of birth rates for the various countries in half, when ranked in order of size. The interquartile deviation is the range of values required to bracket the middle half of the same ordered list.

[5] If birth rates are calculated separately for the subpopulations of women in each age, with the numerators restricted to female births, then the sum of these rates for all ages is the gross reproduction rate.

TABLE 3—ESTIMATED GROSS REPRODUCTION RATES, 1965

1.80–1.89:	Ireland
1.70–1.79:	New Zealand
1.60–1.69:	
1.50–1.59:	Canada
1.40–1.49:	Netherlands, Australia, United States, Scotland, Norway, Portugal, France
1.30–1.39:	England and Wales, Spain, Denmark, Austria
1.20–1.29:	Belgium, Italy, Yugoslavia, Finland, Switzerland, Sweden
1.10–1.19:	West Germany, Czechoslovakia, Poland, Soviet Union
1.00–1.09:	Japan, Bulgaria
0.90–0.99:	
0.80–0.89:	Rumania, Hungary

the early 1960's for example, the United States birth rate rose 21 per cent, but the gross reproduction rate rose 58 per cent. Evolution of the age distribution is responsible for this difference. The point can be generalized as follows. The chief determinant of the age distribution with respect to the current birth rate is the direction of movement of the birth rate in the preceding several decades. Because fertility was low in most countries during the 1930's, their birth rates today are artificially depressed by age distributions which are temporarily unfavorable to childbearing. Those countries which did not achieve low fertility until after the war still have an age distribution favorable to childbearing. Thus Japan's birth rate is the same as that of England and Wales, yet Japan's gross reproduction rate is 30 per cent lower. On the same grounds, comparisons of the birth rate will soon be unfavorable to Japan.

As well as the general pattern of association with the sequence of prior births, the age distribution can be misshaped, in ways which depress the birth rate, by war mortality (the Soviet Union is the outstanding contemporary case) and by emigration. Despite Ireland's high gross reproduction rate, its birth rate is moderate, in large part because more than half of each cohort of Irish babies leave their homeland before completing their reproductive life-span. This is one effective if perverse way of restricting population growth.

Even as the birth rate is faulted by defects relative to the gross reproduction rate, so is the latter technically flawed. In particular, the reproduction rate will register more fertility from year to year than the participant couples experience during their lifetimes, whenever there is a trend toward earlier childbearing. Since just such a trend has characterized most modern nations recently, the fertility levels recorded in Table 3 tend to be spuriously high. This is not now the case for the United States. For twenty years American fertility was distorted upward by a trend toward earlier childbearing. Now that trend has ended, the spurious surplus has vanished, and the gross reproduction rate has consequently declined.[6] The general import of this example is that we must exercise due circumspection when tempted to infer from year-to-year movements of fertility the advent of new family values, new birth control techniques, or other changes.

MODES OF FERTILITY REGULATION

The *modus operandi* of fertility reduction must take one of three forms: reduction of the probability of intercourse; reduction of the probability of conception if intercourse occurs; reduction of the probability of birtl if conception occurs.[7] The first of these is

[6] Cf. Norman B. Ryder, "The Reproductive Renaissance North of the Rio Grande," THE ANNALS, Vol. 316 (March 1958), pp. 18–24.

[7] This is actually not a complete list. The birth rate can also be reduced by the emigration of young adults. Although only one country, Ireland, has practiced this mode of fertility regulation on a more than temporary basis, it has been the general rule for rural *vis-à-vis* urban areas within nations.

control through nuptiality (in the form of higher age at marriage or lower proportions ever-married); the latter two constitute control of marital fertility.

It is presumed, on admittedly sketchy evidence, that fertility throughout Europe was once as high as it is now in the still underdeveloped nations, because of early and nearly universal marriage, and high marital fertility. Then, some five hundred years ago, marriage patterns changed in western Europe, toward a new pattern of rather high age at marriage and low proportions eventually marrying.[8] The consequence for this region was a moderately high birth rate (about 35), the level at which western (but not eastern) European nations entered the modern demographic era. In the past hundred and fifty years, the predominant transformation has been a decline in marital fertility, beginning in France and a little later in the United States, and now pervasive in the modern world. Although the data do not permit confident assertion, the modern nations now appear to be embarked on yet a fourth phase of transition: to a combination of low marital fertility and high nuptiality, again beginning in France and a little later in the United States. This is part of the explanation for the recent small rise in fertility in most modern societies. For western Europe and its overseas heirs, the sequence, in summary, has been: high nuptiality and high marital fertility; low nuptiality and high marital fertility; low nuptiality and low marital fertility; and finally high nuptiality and low marital fertility. Apparently, the nations of eastern Europe (but not Japan and probably not the Soviet Union) have abbreviated the sequence by omitting the two intermediate stages.

Patterns of age at marriage relative to present fertility levels are most diverse at present, probably because the evolution is not everywhere complete and because there are differences in the choices societies have made in their drive toward lower fertility. Gross reproduction rates are relatively high in New Zealand (with high nuptiality) and in The Netherlands (with low nuptiality); gross reproduction rates are relatively low in Japan (with low nuptiality) and in Bulgaria (with high nuptiality). But the predominant tendency seems to be convergence toward the early marriage of nearly everybody, and the careful regulation of subsequent childbearing.[9]

It is well known that the predominant mode of fertility regulation is contraception, the reduction of the probability that intercourse will result in conception.[10] So well known is it indeed that demographers have until recently ignored the importance of the alternatives of nuptiality control and abortion. Until the last few decades, information about the means being employed to restrain marital fertility has been fragmentary and anecdotal. It is generally agreed, however, that efficacious procedures (like *coitus interruptus*) have long been known and used by most if not all populations. In explaining the historical decline in marital fertility, much less weight is given to technical improvement of means (such as condom and diaphragm) than to the increased employment of these and other means.[11]

[8] Hajnal presents evidence that this change occurred between the fourteenth and the seventeenth centuries, to the west of a line running from Leningrad to Trieste. John Hajnal, "European Marriage Patterns in Perspective," in D. V. Glass and D. E. C. Eversley (eds.), *Population in History* (London: Edward Arnold, 1965), pp. 101–143.

[9] The important exceptions are Ireland, Spain, and Portugal, where tardy economic development and influential Catholicism prevail.

[10] This result can also be achieved by sterilization, but the practice has nowhere yet become quantitatively important.

[11] There may be a different judgment of the impact of the modern contraceptives—the

As a supplement or alternative to contraception, abortion has probably been significant always and everywhere, despite its associated danger and moral opprobrium. Because it has been illegal, the magnitude of its influence on variations in fertility through time and space is unknown and likely to remain so. Nevertheless, the more we learn of the ineffectuality of most efforts at contraception, the more we are inclined to suspect a major covert role for abortion as a second line of defense against the unwanted birth.

In the past two decades, abortion has been legalized in a number of countries characterized by insufficient and inefficient contraception and by a lot of illegal abortion. First Japan, then the Soviet Union, and subsequently all countries of eastern Europe except East Germany (and Albania) permitted abortion on socioeconomic grounds. Legal abortions rose to a high level, and birth rates dropped rapidly; the lowest fertility in the world today is found among these countries. Controls associated with legalization have reduced the health risks appreciably. Nevertheless, and entirely apart from moral considerations, abortion is an expensive alternative to contraception. Consequently, we may expect a persistent effort to induce a shift from abortion to contraception.

Although different reproductive strategies were adopted by modernizing nations in their particular paths toward the common goal, it is unquestionable that the consequent decline in fertility has everywhere been intentional and not, for instance, the outcome of the working of mysterious biological forces. Equally clear is that, with the sole exception of recent provisions legalizing abortion—which have the force of facilitating individual intent—the reproductive decisions and actions have been taken by individual couples rather than by governments or religious bodies. Indeed, what has happened has happened despite the persistent efforts by such agencies to thwart the will of the populace.

The next question to be answered, then, is: Why did couples systematically reduce the numbers of babies they were bringing into the world, in every country experiencing modernization? Despite broad agreement among demographers on the general sociocultural dimensions involved, there persists a feeling of intellectual dissatisfaction that the complex of interdependent elements remains far too diffuse to permit confident specification of the necessary (let alone the sufficient) conditions for modern fertility regulation. The sketch which follows is a preliminary attempt to identify what seem to the writer to be the basic components of the explanation.

High Fertility Norms

No society can afford indifference to reproductive behavior. Every society maintains fertility norms: standardized solutions to the problems of sex and procreation. The society indoctrinates its members into conformity with these norms, by explicit and implicit rewards and punishments. The norms are necessary to direct the behavior of individuals into channels which are desirable from the standpoint of the sources of the norms, rather than leave it to take forms which, however appealing from the standpoint of the individuals concerned, might be prejudicial to group interests.

And yet to say that a society has high fertility because it has high fertility norms is to run the risk of lapsing into circularity. Nor is it satisfactory to say that fertility was once high because it was the tradition to have many

oral progestins and intra-uterine devices—because of their extraordinarily high acceptability and efficacy.

babies, but now tradition has been replaced by rationality and the reasonable family size is small. It would be a crude misreading of social history to interpret the decline of fertility as a straightforward consequence of the growth of intelligence and understanding.[12]

The fact is that high fertility norms prevailed because they were rational: they were intelligible orientations of means toward ends, given particular conditions. These conditions were high mortality, and the family farm as the basis of productive organization. In such circumstances, high fertility was mandatory from the standpoint of societal survival and desirable from the standpoint of the leaders of the kinship group. In the practical affairs of life, where human labor was the principal source of energy, children were necessary as helpers in the fields, as defenders against attacking tribes, and as sources of security in their parents' later years. Children were raised frugally and put to work early. From the viewpoint of the family, they were essential productive assets.

In underdeveloped areas, couples have many births, not precisely because they want them, but because the groups to which they are responsible want them, and secure them through the enforcement of high fertility norms. The fundamental clue to the explanation of fertility decline is not the introduction of rationality, but change in the locus of the goals toward which rational acts are directed: the ends of the family have been replaced in the reproductive calculus by the ends of the individual.

In peasant societies, marriage is characteristically arranged at a very early age, and the young couple incorporated within the larger kinship economic unit. Since the economic context is one in which extra labor is an important asset, the couple are enjoined to produce children for the greater good of the group as a whole. But in the European family type which developed some five hundred years ago, the independent nuclear family was the norm. The *quid pro quo* of autonomy was the responsibility of each couple for the support of its own children. Accordingly, marriage had to be delayed until these responsibilities could be met. Since the parents controlled access to the principal economic opportunities (the land they held), the time of marriage rested in their hands. Thus, the system provided control over the relationship between population and resources. In addition, agriculture was typically labor-extensive: there was a lower demand at the margin for additional labor than in peasant societies.[13]

The western European system set the stage for modern fertility by counterpoising the interests of parents and children, and the interests of one sibling and another, at the time of movement from family of orientation to family of procreation.[14] The specific stimuli which brought pressure to bear on these points of structural strain were two: mortality decline and urban economic development.

Social arrangements had been adapted to high mortality. High levels of fertility were required to produce small families (in terms of the numbers surviving to adulthood) because spouses were likely to die prematurely, and infant and child mortality was commonplace. Mortality decline produced the large family for the first time. Its size grew both

[12] A similar misinterpretation is to ascribe low fertility to the advent of materialism. No orientation could be more materialistic than that essential to a subsistence economy.

[13] Norman B. Ryder, "Fertility," in Philip M. Hauser and O. Dudley Duncan (eds.), *The Study of Population* (Chicago: University of Chicago Press, 1959), pp. 400-436.

[14] A person's family of orientation is the one in which he is born; his family of procreation is the one in which he is a parent.

in numbers and in years: the labor force on the family farm was increased, often beyond the point of efficient utilization of the extra hands; the parents had more years to live, prolonging the time when the property passed to the children, and thus raising the age of marriage; and more siblings survived to adulthood, so that each had a smaller share of the patrimony.

At the same time as mortality decline was putting pressure on the relationships between parent and child and between sibling and sibling, there was economic development and a rise in income expectations. The growth of urban industry and the opening of the new world provided employment opportunities alternative to the long wait for part of the family farm. Migration to the cities of Europe and to the cities and farmlands of America mounted to major proportions. In consequence, the bearing and rearing of children became a much less rewarding activity for the parents who stayed on the farm, spatial and social distance grew between family of orientation and family of procreation, and postponement of marriage became avoidable.[15]

Then the crucial normative transformation occurred. Society intervened to institutionalize the rights of the individual *vis-à-vis* the family and thus to provide the basis for building the kind of citizenry appropriate to a modern economy. Three developments were particularly pertinent to the creation of a low fertility climate: legislation prohibiting child labor, legislation prescribing education of children, and establishment of a higher status for women. Large families had been the outcome of a system of sharp inequality between the generations and between the sexes. Children were no longer mass-produced once they were withdrawn from the farm and the factory and put into school.

The transfer of the focus of work organization from the rural family to the urban society had many implications for reproduction. The cost of raising children is higher in cities than in rural areas because necessities cost more, the preparation of children for urban jobs is more expensive, and the income once he takes a job belongs to the child, and not his parents. Moreover the woman in the urban society is provided the opportunity of seeking satisfactions elsewhere than in motherhood. Her weight in the reproductive decision increases; the relevance of this is that the burdens of bearing and rearing children have always fallen more directly and heavily on women than on men.

Thus, the locus of authority has moved away from the family in two directions: toward the individual and toward the formal organizations which characterize the modern state. The society has replaced the family as the instrument of education, the avenue of employment, and the source of social security for the individual. No longer are the worth-while things of life, and the rights and responsibilities of power, the province of the parents; the new contract is directly between the individual and his society. These are not simply the manifestations of a higher morality; they are recognitions of the many ways in which the interests of the individual are co-ordinate with the interests of the modern economy. Strong family relationships, on the contrary, are incompatible with the rational allocation of human resources. Yet, the character of the society which replaces the family at the center of life is not irrelevant. Rulers of nations who are obsessed with the strength of the collectivity to the disregard of individual well-being have always been opposed to fertility regulation. The more scope a society pro-

[15] Under these circumstances there may even have been some rise in fertility for the time being, at least in some parts of Europe.

vides for individual initiative and responsibility, the more likely is a low level of fertility.

A postscript is worth-while on the roles played by formal public instruction. In an approximate way, the decline of illiteracy has everywhere accompanied the decline of fertility (although there seems to be no crucial proportion of literates which can be said to trigger that decline). The educational system represents a societal alternative to the family as a source of new normative orientations, and an enhancement of vision beyond the limited boundaries of the local community. Education equips children with the means for exploiting new economic opportunities, and in the process increases the expense to the parents. Education reinforces the prospects for continued mortality decline, and improves the access of individuals to the efficient modes of contraception with which to attain new reproductive goals. Children are separated from their parents for most of their preadult life, and girls and boys are treated with approximate equality. Education is the cutting edge of the modern world; the school is the arena within which the new alliance between individual and society is contracted.

THE BASIS FOR MODERN FERTILITY

Throughout the modern world there is now a remarkable demographic consensus. Marriage occurs at a rather early age, and the couple proceeds to have a small number of children at regulated intervals. Both celibacy and voluntary infertility are highly improbable, and, at the other extreme, the large family is an anachronism. The range of fertility differences among modern nations depends essentially on the question of whether the proportion of couples who have three children is greater or less than the proportion who have two children.

Given the cogency of the argument we have advanced concerning the decline of the family in relation to the interests of the individual and the society, an explanation is required for the continuation of adequate reproduction. As a general argument, although the functions performed by the family are much more narrowly circumscribed than they once were, its remaining contributions are not only valuable but essential. Even in the economic sphere, it may be true that the family is no longer an important production unit (although this is belied by the picture of the housewife with her array of capital equipment for the provision of services), but it continues to serve as a distribution center for the products of the economy.

More to the point, the family has become specialized as a producer of noneconomic goods. We have argued that the normative transformation underlying fertility decline took the form of termination of the individual's service to his family's interests; this says nothing about the extent to which the family can serve the individual's interests. There is no present substitute for the family as the instrument of child socialization. The family provides stable, diffuse, and unquestioning support for the personality of the individual on his return from participation in the competitive impersonal environment of modern occupational and educational life. The family is an oasis for the replenishment of the individual personality. One piece of evidence for this view is a further characteristic of modern family life—the prevalence of resort to divorce if the family is not providing the individual with what he or she expects and requires as a person. The demographic structure required to fulfill the task of maintaining the individual's emotional equilibrium is difficult to specify, but it would not seem to require more than a few children. Per-

haps it is pertinent to the sociopsychological balance of the modern family that most parents desire one child of each sex.

Above and beyond the satisfactions the individual may find in the parental role, the society has a vital interest in the production of citizens. On the implicit level, positive sanctions encourage marriage and childbearing, and negative sanctions penalize the sterile and the celibate, as a reflection of deep-seated norms undoubtedly associated with the requisite of societal survival. Explicitly, the society subsidizes the family. The bearing, rearing, and educating of children are too expensive for the individual couple. Society supports reproduction through family allowances, tax exemptions, and facilities for health and education; it assumes the responsibility for employment and relief when unemployed, for protection and defense, and for security throughout the low points of life. Without such intervention, children would be a luxury beyond the reach of most couples. The ability of society to influence the reproductivity of its citizens is essential to its future. The difference between two children and three may have small salience for the couple concerned, but the aggregate outcome has overwhelming import for social and economic progress.

The role played by religion in contemporary fertility is difficult to assess. Notwithstanding the cleavage in contraceptive doctrine, Catholic and non-Catholic populations differ little in their birth rates—although the former are more likely than the latter to employ nuptiality control in striving for the common objective of low fertility. In some nations, religious leaders have supported legislation which has probably slowed somewhat the dissemination of contraceptive knowledge and means. Yet perhaps the major effect religion has had on the pace of fertility decline has been indirect, through modification of the choice of reproductive strategies among the alternative modes of regulation, through support for the authority of the family with respect to the individual, and through the implicit effects on economic development of its support for the traditional virtues.

In a similar vein, it would seem that ideological orientation has played a distinctly secondary role in demographic developments. Modernizing stimuli have yielded the same demographic responses in socialistic as in capitalistic societies. The reproductive significance of the type of politico-economic structure must be sought in its implications for the pace of economic development, and for the scope offered the individual for the pursuit of personal well-being.

SPECULATIONS ON THE FUTURE

It appears unlikely, on the basis of current developments, that the average level of fertility in these twenty-eight modern nations will change much. The trend toward similarity will probably continue: those countries with the lowest birth rates cannot be expected to tolerate the subjective and objective implications of reproduction at a subreplacement level—at least no country yet has—and those countries with birth rates which are high despite low per capita income (Spain, Portugal, and Ireland) should show further declines as economic development continues.

Relevant to the future of modern fertility is the availability of efficient contraception. Only in the 1960's has modern contraception become available. The intra-uterine contraceptive device and the oral contraceptive deserve to be called modern because they are the first procedures which separate the acts of contraception and sexual intercourse. Fertility decline has recently been observed in those countries, largely the

English-speaking nations, where oral contraception is beginning to be employed extensively. Although the analysis required to substantiate the argument is incomplete, there is reason to believe that the principal impact of oral contraception has been to permit couples to delay the births of their children—a type of behavior which has the effect of reducing the birth rate in the absence of changes of completed family size. Knowledge about the practice of family planning is most comprehensive for the United States. Here, although most pregnancies are unplanned, they are typically failures of timing. Problems of excess fertility which could be solved by the modern contraceptives are small from the standpoint of the total population, although not for the most deprived levels within the society.

The most likely consequence of the adoption of contraceptive innovations is a transformation of the regulatory pattern away from abstinence (in the form of delayed marriage) and abortion. The advent of more efficient contraception will probably cause the most decline in nations where there is now the greatest discrepancy between the numbers of children intended and the numbers achieved, as a consequence of the ineffectiveness of the methods currently being used. The point is that the improvement of regulatory means is not necessarily associated with fertility decline, but rather with a reduction in the gap between reproductive intent and reproductive achievement. Unfortunately, we cannot tell whether current international differences in marital fertility represent differences in goals or differences in success in achieving goals.

It is well known that the richer nations of the world have much lower fertility than the poorer ones, and that rising per capita income as a consequence of economic development has been associated with fertility decline. But within the group of modern nations there is today no relationship between level of development and level of fertility. If, as seems probable, this is the outcome of effective means to somewhat higher reproductive goals in the more developed nations and ineffective means to somewhat lower reproductive goals in the less developed nations, we may expect a direct relationship between fertility level and income level to become established as the gap between intentions and achievements is reduced by more effective fertility regulation.

It would seem to follow that a rise in per capita income through time would be associated with a rise in fertility. But rising fertility means an increased rate of population growth, with its attendant sacrifice of irreplaceable economic and noneconomic resources universally regarded as essentials of the good life. It is difficult to believe that a successful society would permit demographic despoilation to continue; it is equally difficult to contemplate the precise ways in which reproductive restraint could be achieved, given the disparity in perspective between the individuals who make reproductive decisions and the social aggregate which is exposed to the consequences. One point does seem clear: improved ability to determine fertility will lead to greater sensitivity of response to instability in the environment, and therefore to the risk of fertility fluctuations of even greater amplitude and more embarrassing consequences than we have seen in the recent past.

To conclude, it seems that the future fertility of modern nations will depend primarily on the relative success with which their respective governments can bring individual decisions about childbearing into correspondence with the demographic requirements of the society. Strait is the gate and narrow is the way between too much and too little fertility. There may well be few that find it.

Reproductive Performance and Reproductive Capacity in Less Industrialized Societies

By G. W. Roberts

Abstract: The high-fertility regions of the world include Asia (without the Soviet Union), the Far East, Africa, Latin America, and the Caribbean. Together these regions support about 70 per cent of the world's population. Crude birth rates as high as 60 have been reported for some populations, while at the other end of the scale there are countries with rates in the 30's. Mainland China, India, and Pakistan all have very high birth rates. There is some variation in Africa, with very high rates being recorded for the northern and western regions. Variations are also evident in Latin America and the Caribbean. There is evidence of declines in a few of the regions being considered. In fact, in the case of Latin America, two of the countries—Argentina and Uruguay—are entering a phase of low fertility. Differentials of a wide variety are encountered in these populations, but the patterns vary, and they do not always take the form associated with European populations. Many sociocultural elements, such as marriage, customs, religion, and general value systems, have been identified as significant in sustaining high fertility, and attempts have been made to reduce this association to statistical form. Another line of investigation of high fertility aims at a resolution of the levels into mathematical and statistical components.

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BECAUSE of deficiencies in the demographic records of many parts of the world, we are without firm information on levels of fertility for a number of populations. Nevertheless, it is still possible to identify with some certainty the regions of the world which now experience high levels of fertility. To effect such an identification, of course, we must adopt some dividing line. In terms of crude birth rates it has been advanced that a level of 30 per 1,000 population constitutes such a point of demarcation, while in terms of gross reproduction rates a level of 2.0 serves a similar purpose.[1] On these terms all populations with crude birth rates in excess of 30 or with gross reproduction rates above 2.0 may be included in the regions of high fertility. In general, fertility in these populations is approximately twice as high as that in the regions of low fertility.

It is usual to treat the designation high fertility as synonymous with the so-called developing status. In other words high fertility represents only one aspect of the social and economic position of these societies, which, in terms of the theory of demographic transition, may be classed as preindustrial. These societies are largely, although not exclusively, agrarian, with relatively low output per head of population and low dependence on industry. With respect to income per head, energy consumption, urbanization, and participation in nonagricultural pursuits, the high-fertility countries differ from those in which, as a result mainly of the spread of contraception, fertility is now low.

The regions of the world which are now recognized as exhibiting high fertility are Asia (excluding the Soviet Union), the Far East, Africa, Latin America, and the Caribbean. These support a total of about 2.5 billion people, which is equivalent to about 70 per cent of the world's population.

[1] United Nations, *Population Bulletin of the United Nations*, No. 7 (New York: United Nations, 1965).

PREVAILING LEVELS OF FERTILITY

Despite the fact that these are high-fertility regions, their constituents reveal appreciable variation in levels, while a few of the countries within these geographical divisions may be more appropriately designated as regions of low fertility.

Crude birth rates as high as 60 have been reported in some African populations, while in others, rates within the 30's prevail. These variations evidently stem from differentials in social conditions rather than from differences in inherent reproductive capacity. Frequently, disease, such as venereal infections, may be responsible for relatively low fertility in developing societies. Nutritional deficiencies may also play a part in retarding fertility. Probably more important sources of differentials are social customs. Marriage customs, practices concerning remarriage and widowhood, and sexual taboos all help to determine levels of fertility, while deliberate attempts at controlling births have been known to operate in the past in a few societies, and within recent times have been widely resorted to in a number of high-fertility countries.

Asia

With the exception of Japan in the East and Israel in the West, this continent constitutes a vast expanse of peoples with very high levels of fertility. This holds as much for the three giant population aggregates—China, India, and Pakistan—as it does for the smaller units, both islands and continental countries.

For Mainland China, the world's largest country, although official returns have been published, it seems

BIRTH RATE	CENSUS DECADE						
	1881–90	1891–1900	1901–10	1911–20	1921–30	1931–40	1941–50
Estimated	48.9	45.8	48.1	49.2	46.4	45.2	39.9
Registered		34	37	37	34.2	34.2	26.5

more realistic to consider estimates prepared by demographers. Aird has shown that birth rates of about 42 have been in evidence since the middle of the last century and in the period 1948–1953 stand at about 45.[2] Taeuber and Taeuber find from a study of registration data prepared by the Japanese that crude rates range from 40.8 in South Manchuria Railway Zone to 46.8 in three rural areas.[3] They conclude: "There were major differences in the fertility of urban and rural populations, but the variation occurred within a very high range." The more reliable data for Taiwan confirm these high rates; for this island population has consistently shown birth rates in the 40's and gross reproduction rates in excess of 3.0.[4]

For India, the second largest country in the world, official rates are available, although here also revisions to these and special estimates give more realistic pictures of the fertility position. The table above sets out estimated birth rates and rates based on registered data over an extended period.[5] Both of these suggest declines, but no downward trends. Special analyses as well as sample surveys confirm that birth rates are in excess of 40. Coale and Hoover, from analyses of age structure of the population, estimate a birth rate of 43 for 1951.[6] A somewhat lower rate (40) is given by S. P. Jain.[7] Both the Mysore study and the National Sample Survey also illustrate the high levels of fertility prevailing in the country.[8]

Pakistan, under the influence of Moslem religion, has birth rates even higher than those of China and India. United Nations estimates put its crude birth rate for 1946-1961 at 48.[9] In Southeast Asia there is only one population (that of Singapore) where birth rates fall below 40; here it is 37.8. Only fragmentary material is available for the southwestern countries of Asia, but it appears that with the exception

[2] J. S. Aird, "Present and Prospective Population of Mainland China," *Population Trend in Eastern Europe, the USSR and Mainland China* (New York: Millbank Memorial Fund, 1960).

[3] I. B. Taeuber and C. E. Taeuber, "The Fertility of the Chinese in Northeast China." *Proceedings of the International Population Conference*. Vienna, 1959.

[4] G. W. Barclay, *Colonial Development and Population in Taiwan* (Princeton, N.J.: Office of Population Research, Princeton University, 1954).

[5] R. K. Som *et al.*, *Preliminary Estimates of Birth and Death Rates and of the Rate of Growth of Population*, National Sample Survey, No. 48 (Delhi: Government of India, 1961).

[6] A. Coale and E. M. Hoover, *Population Growth and Economic Development in Low Income Countries* (Princeton, N.J.: Princeton University Press, 1958).

[7] S. P. Jain, "Estimation of Birth and Death Rates in India during 1941–1950, *Census of India*, Paper No. 6 (1954), and "Future Growth of Indian Population: An Analysis," in S. N. Agarwala (ed.), *India's Population* (London, 1960).

[8] See United Nations, *The Mysore Population Study*, Population Studies, No. 34 (New York: United Nations, 1961) and A. Das Gupta *et al.*, *Couple Fertility*, National Sample Survey, No. 7 (Delhi: Government of India, 1955).

[9] United Nations, *op. cit.*, 1965.

of Israel, all the countries exhibit high levels of fertility.

Africa

Deficiencies in the demographic records are marked in most countries of this continent, and in the majority of cases measures of fertility in use have been derived from special analyses of available demographic data or from special surveys. According to the United Nations, the whole of North Africa seems to represent a region of very high fertility with gross reproduction rates of about 3.0.[10] Here again, the Moslem populations are characterized by the highest levels, a factor associated with the cultural life of such peoples.[11] In most West African countries also, fertility is very high, with gross reproduction rates of 3 or over, and birth rates of about 50. A few exceptions may be noted; Gabon and the Cameroons have rates somewhat lower than these. In the remainder of the continent very high rates occur in Northern Rhodesia and Rwanda, but lower rates characterize many of the countries of southern and eastern Africa. It should be noted that the European elements of the Republic of South Africa may be taken as falling within the region of low fertility for the world as a whole, although the African population of this country clearly exhibits levels of high fertility.

Latin America

The general level of demographic records for this region is better than those for Africa. The defects are largely in respect of vital registration. For most of the countries without reliable vital registration, there are censuses from which fairly adequate measures of fertility can be derived. It is, in fact, convenient to rely on two series of recently published estimates of birth rates in this region. Two subdivisions may be made: the countries of South America (excluding the Guianas) and those of Central America (excluding British Honduras).

Only two countries of South America show crude birth rates in the 20's and thus qualify for exclusion from the strictly defined regions of high fertility; these are Argentina and Uruguay. Apart from these, the only other country with a birth rate under 40 in the period 1955–1959 is, in terms of Collver's estimates, Chile, with a rate of 37.6.[12] In Bolivia and Brazil, rates between 40 and 42 prevail, while in all the others the level exceeds 42. Of the seven political units of Central America, only one has a birth rate for this period of less than 43; this is Panama with a rate of 40.5. In Mexico it is 45.8, and in all of the others it exceeds 46. Estimates of comparable magnitude are presented by the United Nations.[13]

The Caribbean

This collection of peoples of diverse linguistic and cultural backgrounds reveals varying rates of fertility, although, in general, levels remain high. Two of the larger units—Cuba and Haiti—have fairly low birth rates. In Cuba the rate is in the low 30's; in Haiti, from fragmentary material available, it seems that a rate of between 35 and 40 prevails. In the Dominican Republic the present birth rate is in the mid-40's.

Of the English-speaking units only two show birth rates well under 40; Barbados and Antigua have rates in the low or middle 30's. Trinidad and

[10] *Ibid.*

[11] Dudley Kirk, "Factors Affecting Moslem Natality," in Bernard Berelson *et al.* (eds.) *Family Planning and Population Programs* (Chicago: University of Chicago Press, 1966).

[12] A. Collver, *Birth Rates in Latin America* (Berkeley, Calif.: University of California Press, 1965).

[13] United Nations, *op. cit.*, 1965.

Tobago have a rate of about 39, while the highest are those for St. Vincent (49.4) and St. Lucia (48.5). All the others have rates in the low or middle 40's.[14] In the smaller French-speaking units also, birth rates in the middle 40's are indicated, while in Surinam a rate in the high 40's prevails.

TRENDS IN FERTILITY

As is to be expected, the information on movements in fertility is confined to relatively few countries. In general, interest in the trend of fertility in the countries under review centers around the extent to which fertility has declined. But it should be noted that there have been upward movements in some countries, especially associated with social changes. Another factor to be taken into account is the particular measure of fertility used to depict changes in its levels. For, as in the case of low-fertility populations, interpretation of trends in measures of completed family size pose problems insofar as they may not always coincide with changes revealed by current or period fertility. It should also be emphasized that, even where there is evidence of declines, the fact that in many of these countries mortality levels may be falling at an even faster rate means that levels of natural increase may continue to rise.

There is some evidence of declines in fertility in India. Data presented by Som *et al.* indicate that the crude birth rate during 1941–1950 of 39.9 is somewhat lower than rates at earlier decennial periods.[15] A country with a long record of demographic data and which shows convincing evidence of fertility declines is Taiwan. Throughout the early years of this century, very high fertility rates characterized this country, with birth rates of over 40 and gross reproduction rates of about 3.0 to 3.4.[16] However, since 1958 there has been a decline. Freedman *et al.* found that, with the growing interest in fertility control, there has been a general fall in fertility rates over the island, and by 1961 the rate was down to 38.3.[17] This decline mostly characterizes the older age groups, "suggesting that what is occurring is limitation of births after at least a moderate number rather than an increase in childlessness or spacing of early births."

In Latin America there is firm evidence of declines, especially in the last two decades. In the case of Chile, for instance, Cabello shows that birth rates have now fallen from the high levels prevailing in the past to the middle 30's; Collver's more recent estimates depict the same pattern.[18] In Argentina and Uruguay the trend has followed, approximately, the pattern characteristic of European populations in general, and these may now be classed as countries of low fertility. Some falls in fertility have also taken place in Puerto Rico, although some of these may be associated with the altered structure of the population resulting from prolonged and heavy emigration to the United States. In general, however, Latin America remains a region of very high fertility.

A few West Indian countries have experienced small fertility declines. Here, although crude birth rates and current gross reproduction rates have in recent years remained unchanged, or may have, in fact, risen, reductions in

[14] University of the West Indies, *Estimates of Intercensal Population by Age and Sex and Revised Vital Rates for British Caribbean Countries, 1946–60* (Kingston, Jamaica: University of the West Indies, 1964).

[15] R. K. Som *et al.*, *op. cit.*, 1961.

[16] G. W. Barclay, *op. cit.*, 1954.

[17] R. Freedman *et al.*, "Fertility Trends in Taiwan: Tradition and Changes," *Population Studies*, 16 [3] (1963), pp. 219–236.

[18] See O. Cabello, "The Demography of Chile," *Population Studies*, 9 [3] (1956), pp. 237–250 and A. Collver, *op. cit.*, 1965.

completed family size have been noted in many countries, notably between 1943 and 1960 in Jamaica. The latter has been largely masked by the equally prominent feature characterizing these populations in the postwar years—the marked reduction in the proportion of childless females.[19]

The theory of demographic transition postulates that, ultimately, birth rates in these populations will move towards lower levels. While some reductions have been noted in a few of the countries concerned, there are no indications that appreciable downward trends are imminent. And the prevailing levels, coupled with the constantly improved mortality position, promise continued rates of reproduction at very high levels.

FERTILITY DIFFERENTIALS

Fertility differentials appear in the regions under consideration. But in many cases their patterns and extent are far removed from those associated with regions of low fertility. Often the differentials are small, while especial care has to be taken in assessing their significance, since, in so many instances, a complex of variables is involved, and no single one suffices to account for a given differential. Indeed, although we may discuss urban-rural differentials, as well as differentials in terms of educational attainment, occupation, and race and religion, individually it will at many points be necessary to notice additional variables that many accentuate or limit the effectiveness of any of the particular factors being discussed.

[19] G. W. Roberts, "The Demographic Position of the Caribbean," U.S., House of Representatives, *A Study of Population and Immigration Problems*, Special Series No. 6 (Washington, D.C.: U.S. Government Printing Office, 1963).

Urban-rural differentials

Kingsley Davis noted some rural-urban differentials in India, but they were very small by comparison with those encountered in Western societies.[20] More recent evidence concerning these differentials is available—for instance, in a study by Chandrasekaran and George.[21] Robinson has argued that there has been a decline in urban-rural fertility in India in recent years.[22] The Mysore Study found a small differential, but it was in favor of the urban females. And here it seems that another social variable, the frequency of widowhood, is at the basis of this particular differential.

In Africa, some countries reveal firmer evidence of such differentials. Badenhorst has noted that among the Bantu, the colored, the Asiatic, and the European elements of the population of South Africa, fertility is higher among the rural than among the urban sectors of the population.[23] But elsewhere in the continent rural-urban differentials are by no means well defined. Thus, El-Badry found no conclusive evidence of it in Egypt, while Zikry found fertility to be higher in urban than in rural areas of the United Arab Republic (UAR).[24]

[20] K. Davis, *The Population of India and Pakistan* (Princeton, N.J.: Princeton University Press, 1951).

[21] C. Chandrasekeran and M. V. George, "Mechanisms Underlying the Differences in Fertility Patterns of Bengalee Women from Three Socio-Economic Groups," *Milbank Memorial Fund Quarterly*, 40 [1] (1962), pp. 60–89.

[22] W. C. Robinson, "Urban-Rural Differences in Indian Fertility," *Population Studies*, 14 [3] (1961), pp. 218–234.

[23] L. T. Badenhorst, "Territorial Differentials in Fertility in the Union of South Africa—1911–1936," *Population Studies*, 6 [2] (1952), pp. 135–162.

[24] M. A. El-Badry, "Some Aspects of Fertility in Egypt," *Milbank Memorial Fund Quarterly*, 34 [1] (1956), pp. 22–43. A. M. Zikry,

In many countries of Latin America urban-rural differentials have been demonstrated. Using children-women ratios, Lynn Smith found that there is widespread evidence of higher fertility among rural communities.[25] He further argues that "the lower the general rate of reproduction in a country, the greater the rural-urban differential in fertility." However, these differentials do not always appear in Latin-American populations. Stycos noted that in Peru the rural-urban differentials measured on the basis of married females were negligible, and sought to interpret this by introducing other variables such as racial composition, familial stability, and patterns of sex relationship.[26] In a further study of Peru, Ecuador, and Bolivia, Heer also demonstrated differentials similar to those found by Stycos, but, in his view, sex ratios and the possible use of contraceptives in certain rural areas by Indian elements of the population were the operative factors.[27] An entirely different approach to these differentials is advanced by James, who considers them associated with the varying altitude at which the communities live.[28]

Differentials in terms of educational attainment

Data from the Mysore study indicate that the higher the educational status of women in urban areas, the lower their fertility. But such differentials do not appear among those in rural areas.

El-Badry and Rizh found that in urban areas of the UAR there was a steady decline in fertility with a rise in the level of education.[29] But the pattern was not simple in the non-urban areas. Here fertility among illiterate women was lower than that among women just able to read and write, while the level among those with secondary education was lower than that of women just able to read and write. Little difference appears between women just able to read and write and those with elementary schooling.

Differentials by occupation

Here again, differentials in countries of high fertility do not always present well-defined patterns. Thus in Egypt, El-Badry and Rizh (1965) have found that the lowest fertility occurs among females whose husbands are farmers, while the higher technical and professionals do not show the lowest fertility. However, a grouping of the material on the basis of social class does not show an inverse relationship between class and level of fertility. Zikry finds that in urban areas there is an inverse correlation between occupational status and level of fertility, but the relationship between these variables in rural areas is again not of this order.[30] And, once more, farming populations tend to have smaller families than the professional classes.

Clear evidence of differentials by occupation has been found by Miro in Latin-American cities:

With the exception of Bogotá and Buenos Aires, the average number of live births

"Fertility Differentials of the U.A.R. Women," World Population Conference, Belgrade, 1965.

[25] T. Lynn Smith, "The Reproduction Rate in Latin America: Levels, Differentials and Trends," *Population Studies*, 12 [1] (1958), pp. 4–17.

[26] J. Mayone Stycos, "Culture and Differential Fertility in Peru," *Population Studies*, 16 [3] (1963), pp. 257–270.

[27] D. M. Heer, "Fertility Differences between Indian and Spanish-Speaking Parts of Andean Countries," *Population Studies* (July 1964).

[28] W. James, "The Effect of Altitude on Fertility in Andean Countries," *Population Studies* (July 1966).

[29] M. A. El-Badry and H. Rizh, "Regional Fertility Differences between Socio-Economic Groups in the U.A.R.," World Population Conference, Belgrade, 1965.

[30] Zikry, *op. cit.*, 1965.

of women whose husbands were engaged in the lower occupational classifications differs by more than 30 per cent from those with husbands in the upper classifications.[31]

Differentials by race or ethnic origin

In many regions of high fertility in which two or more ethnic or racial groups are identified, these are associated with variations in the level of fertility. The factors behind these are complex, but, in the main, seem to be cultural rather than biological. The presence of Negro populations in the Western Hemisphere seems to be the source of some interesting differentials. Thus, Lynn Smith shows that throughout Brazil, the Negro shows lower fertility rates than the white.[32] According to Nelson, there was, again, evidence from Cuba that the Negro elements of its population have had levels of fertility somewhat lower than those of the European.[33]

In Peru, fertility among the Spanish-speaking populations is higher than that among the Indian elements, and this has been considered by Stycos.[34] Factors such as familial stability, the degree of childlessness, and the use of contraception are the operative factors rather than any biological differentials.

East Indians who have migrated to Africa and to the Caribbean continue to show very high fertility rates, rates, in fact, higher than those of the other elements of the populations in their country of settlement. Badenhorst found that the highest fertility in South Africa was among the Asiatics; second came the Bantu, followed by the colored, while the Europeans had the lowest rates.[35]

Differentials by religion

Whereas in the highly developed societies one of the major interests in differentials of this nature seems to center around that between the Roman Catholics and other religious groups, in the regions under review it appears that the important differential is that between the Hindu and the Moslem socioreligious groups. As Dudley Kirk[36] argues, there are a variety of factors in societies associated with the Moslem faith which tend to uphold the extremely high levels prevailing. From the Mysore Study it appears that, in both urban and rural areas, Moslems have a higher fertility than Hindus. The same relationship is found in Das Gupta *et al.*, Sinha, and others.[37]

SOCIOCULTURAL FACTORS ASSOCIATED WITH HIGH FERTILITY

A variety of sociocultural factors have been identified as associated with levels of fertility in developing societies. In one respect these are instrumental in sustaining high fertility. But, on the other hand, to the extent that they undergo changes in accordance with broader movements in the society, they tend to precipitate declines from high levels of fertility. And since, in

[31] Carmen A. Miro, "Some Misconceptions Disproved: A Program of Comparative Fertility Surveys in Latin America," in Berelson *et al., Family Planning and Population Programs, op. cit.*

[32] T. Lynn Smith, *op. cit.*, 1958.

[33] Lowry Nelson, *Rural Cuba* (Minneapolis: University of Minnesota Press, 1951). In contrast, however, it should be noted that in the United States, fertility levels among the Negroes have always been higher than those among the whites. See, for instance, W. H. Grabill, C. V. Kiser and P. K. Whelpton, *The Fertility of American Women* (New York: John Wiley & Sons, 1959).

[34] J. Mayone Stycos, *op. cit.*, 1963.

[35] L. T. Badenhorst, *op. cit.*, 1952.

[36] D. Kirk, *op. cit.*, 1966.

[37] A. Das Gupta *et al., op. cit.*, 1955; J. N. Sinha, "Differential Fertility and Family Limitation in an Urban Community of Uttar Pradesh," *Population Studies*, 11 [2] (1957), pp. 157–169.

many cases, these broad changes proceed at unequal rates throughout particular countries, we should expect to find fertility differentials within those countries associated with differences in socioeconomic levels in the several segments of the population. It cannot be claimed that the interrelationships between fertility levels and the several sociocultural variables usually linked with it are fully understood, but conceptual frameworks linking these variables with biological factors have been advanced as aids to the understanding of high-fertility patterns. One such well-known scheme is that advanced by Davis and Blake.[38]

Some writers have urged that in these societies the closely knit kinship ties have served as powerful factors in the maintenance of high fertility. This is well illustrated in China and India. In these societies there is a strong compulsion to marry. Agarwala and many others have analyzed in detail the marriage patterns of India, showing the very high incidence of marriage, the low age at marriage, and the fact that there is a slight upward trend in the average age of marriage.[39] Under the extended-family forms that sometimes appear in high-fertility societies, the rearing of children presents few economic difficulties. High marriage rates, however, do not characterize all populations with high fertility. In many Latin-American countries, low marriage rates are typical, these being balanced by a high incidence of common-law or consensual unions. From data presented by Mortara, considerable variation in the frequency of these unions emerges.[40] Even though most of the women in these unions eventually enter into formal marriage, the evidence seems to be that unions of these types tend to reduce the general level of fertility.

Religions followed in these societies contain, in general, no injunctions against childbearing. The tenets of the Moslem religion, for instance, with its insistence on the maintenance of the marital state, the maintenance of sexual relationships, and the low status of the female, conduce evidently to the very high fertility characteristic of these societies. There are in Buddhism, also, many aspects that tend likewise to support high fertility mores, as Ryan has shown.[41] The Roman Catholic religion also tends to sustain high fertility, and may thus be a factor contributing to fertility levels in Latin America. At the same time, the evidence from Puerto Rico suggests that religious beliefs do not always constitute barriers to the use of contraception.

Many writers have dealt with the complex of values in these societies which tend to maintain high fertility. These are associated both with kinship ties and with the contribution which a large family makes to the maintenance of the economic and social units of the society. An important component of these value systems is the desire for large families. This, according to Freedman, represents one of the significant norms emerging as part of the process of arriving at normative solutions to recurrent social problems:

[38] K. Davis and J. Blake, "Social Structure and Fertility: An Analytic Framework," *Economic Development and Cultural Change*, 4 [3] (1956), pp. 211–235.

[39] S. N. Agarwala, "Social and Cultural Factors Affecting Fertility in India," in *Proceedings of the Seventh Conference of the International Planned Parenthood Federation, Singapore, 1963* (Amsterdam, 1964).

[40] G. Mortara, "Les unions consensuelles dans l'Amerique latine," *International Population Conference* (New York, 1963).

[41] B. Ryan, "Hinayana Buddhism and Family Planning in Ceylon," *The Interrelations of Demography, Economic and Social Problems in Selected Underdeveloped Areas* (New York: Milbank Memorial Fund, 1954), pp. 90–102.

The problem of how many children a couple should have is so widely shared and has so many personal and social consequences that it would be a sociological anomaly if social norms regarding it did not develop.[42]

While the foregoing forms of sociological analysis afford insights into the background of high fertility, a much more satisfactory approach would involve the establishment of firm quantitative relationships between fertility and selected measures of economic and social variables. Various attempts have been made to achieve this, sometimes by means of factor analysis. A recent investigation of this nature has been made by the United Nations.[43] Recognizing three levels of low fertility and three levels of high fertility,[44] and associating these with twelve socioeconomic indicators, this investigation shows that "high-fertility and low-fertility countries differ greatly in every respect of economic and social advancement represented by the indicators." Its findings support the "threshold" hypothesis, which maintains that initial changes of an economic and social nature are not likely to affect fertility until a certain level is reached. An interesting feature of this analysis is that it yields estimates of the threshold values for the indicators employed. At the same time, it must be noted that among the high-fertility countries (as indeed among those of low fertility) correlations between measures of fertility and levels of indicators are very low, thus emphasizing that many more analyses of this nature remain to be done to clarify the underlying associations.

[42] R. Freedman, "Norms for Family Size in Underdeveloped Areas," *Proceedings of the Royal Society*, Series B., No. 974, December 10, 1963, pp. 220–240.

[43] United Nations, *op. cit.*, 1965.

[44] United Nations, *op. cit.*

STATISTICAL COMPONENTS OF HIGH FERTILITY

Sufficient material on fertility throughout the world exists to indicate that differentials in over-all rates of fertility, such as birth rates and reproduction rates, are not the only, or indeed the major, features separating the high- from the low-fertility populations. In fact, paralleling the search for associations between sociocultural differentials and fertility differentials among populations are investigations designed to identify the mathematical or statistical aspects of fertility patterns, in terms of which these broad differentials can be adequately depicted. Of the investigations along these lines the following may be mentioned.

In his mathematical methods for estimating fertility levels from fragmentary data, Brass used many parameters which clearly signified differences between low- and high-fertility levels, while his special enquiry into the application of mathematical models to the distribution of births offers several parameters in terms of which separation of fertility levels can be effected.[45]

Recent investigations by the United Nations have been designed expressly to consider the features separating high- from low-fertility patterns, in terms of two measures: the age at which fertility is at a maximum and the degree of concentration of fertility in age groups around the peak.[46] Although several different patterns are observable in the peak age of fertility, these do not serve as a basis for differentiating high from low fertility. Concentration of fertility around the peak ages does, however, present a means of differentiating between high- and low-fertility patterns:

[45] W. Brass, "The Distribution of Births in Human Populations," *Population Studies*, 12 [1] (1958), pp. 51–72.

[46] United Nations, *op. cit.*, 1965.

> In low-fertility countries, women's childbearing tends to be concentrated in a narrower range of ages than it is in high-fertility countries. . . . As a rule 75 per cent or more of total fertility in countries with gross reproduction rates below two results from births to women between 20 and 34 years of age, whereas only two of the high-fertility countries showed such a high concentration at these ages.

Three types of high fertility are distinguished in this investigation. The first, with an early peak, has two subdivisions, established on the basis of the degree of concentration at the peak and skewness of the distribution. The second is characterized by a broad peak, while the third, the late peak, once more, has two subdivisions.

Detailed investigations into the characteristic patterns of high fertility are being made by Bourgeois-Pichat.[47] He is seeking a resolution of fertility into its statistical components, with special reference to *le Tiers Monde*. Of the components he is investigating, some are purely cultural, such as marriage; some are partly cultural and partly biological, such as the duration of gestation, foetal mortality, and the period of temporary sterility following the termination of pregnancy.

At this stage of the investigation, only two of the components identified can be studied according to world populations: marriage and fertility. Bourgeois-Pichat argues that, so far as the high-fertility populations are concerned, four patterns of nuptiality can be depicted. The highest involvement in marriage appears in the populations of North Africa, while at the other end of the scale come the populations of the Caribbean, where formal marriage is at a very low rate. There is again wide variation over the regions of high fertility in respect of infertility, with the lowest levels occurring in North Africa and the highest in the Caribbean populations.

While it is not possible to arrive at estimates of other elements recognized —such as the period of gestation and the frequency of coitus—for individual populations, estimates of these already made for specific communities can clearly be brought into the argument. It is further demonstrated how a combination of nuptiality and infertility functions can be made to illuminate the problems of fertility. It appears that this approach promises to offer valuable insight into how the several factors combine to determine fertility, and at the same time to make it possible to illustrate by appropriate models how changes in one or other of the elements may be expected to influence fertility.

CONCLUSION

The multiplicity of social and economic problems posed by extremely high rates of growth in the regions under review—sometimes exceeding 3 per cent per year—is now convincing many of them that positive steps must be taken to curb growth rates. While the theory of demographic transition postulates that, with changes in social and economic conditions, declines in both rates are ultimately to be expected, and while statistical investigations can reveal estimates of threshold values the arrivals of which may herald fertility controls, the evidence now seems to point to continued high rates of population growth unless the control of fertility becomes an accepted policy of the governments of these countries. To this end, many societies of widely differing political and economic conditions are directing their attention towards programs for population control. These will probably precipitate falls in the relatively near future and at the same time induce differentials of a form which may not now be apparent.

[47] Jean Bourgeois-Pichat, "Les facteurs de la fécondité non dirigée," *Population* (Mai-Juin 1965).

Prospects for Reducing Natality in the Underdeveloped World

By Dudley Kirk

Abstract: The prospects for reductions in birth rates in the less industrialized countries are improving owing to the increasingly favorable climate of opinion relating to birth control, the invention of better contraceptives, and the adoption of national family planning programs. Some twenty-three countries, including over half the population in the developing countries, now have such programs. These are too new to have had a measurable effect on the birth rate in most countries. Nevertheless, the birth rate is already falling in a few of the economically more progressive countries in East Asia such as Taiwan, Korea, and Singapore. These reductions in the birth rate may be expected to deepen and spread, accelerated by national family programs operating within the context of rapid socioeconomic change. In two decades the solutions to the world population problem may well be in sight, though not yet fully achieved. But these changes will not occur fast enough to forestall massive population growth and continuing critical problems of population at least through the next decade.

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TWO-THIRDS of the world's people live in its "developing" or less industrialized countries.[1] The populations of these countries are growing at an accelerating pace in the so-called "population explosion," thanks to welcome gains in reducing mortality.

The present imbalance between birth and death rates in the developing world is generally recognized. Current rates of population growth cannot continue for any long historical period. Already the growth rate in many developing countries exceeds 3 per cent per year, a rate at which numbers double in twenty-three years and increase twenty-fold in the course of a century. From the mathematics of compound interest, it is clear that in the not too distant future, birth rates must come down or death rates must go up.

Of more immediate concern is the fact that the present and emerging rates of population growth seriously handicap socioeconomic advance in many of the developing countries. In some it has created food shortages and even the threat of famine. A lower rate of growth (that is, a lower birth rate) would facilitate their development.

With continuing decline in death rates throughout the world, the modal European birth rates of some seventeen or eighteen births per thousand population would seem to be a reasonable target for the world as a whole by the end of the century. This is what has been achieved in Japan, and this is probably a factor in the spectacular economic success of that country. As in Europe and Japan today, such birth rates would still leave a margin of population growth.

Birth rates in the developing areas still average 40 to 45 per 1,000 population. To bring these rates down to a reasonable balance of natality and mortality (that is, the European level) involves a drop of some 25 points, or more than 50 per cent from the current level. With a present population of 2.3 billion in the underdeveloped world, such a reduction implies the prevention of well over 50 million births per annum at this time. These are the dimensions of the problem of reducing natality in the underdeveloped world.

Fortunately, there are grounds for optimism that birth rates can be brought down in time to avert a rise in death rates, barring some catastrophe such as nuclear war. The prospect for reductions in the birth rate in the less industrialized countries has never been more hopeful than it is today.

(1) Foremost perhaps is the rapid change in climate of opinion regarding family planning. To appreciate the significance of this change it is important to note that the European demographic transition occurred in an atmosphere of overt and covert institutional hostility toward birth control. The European population learned to limit family size, but the process was gradual and stemmed from private decisions made *in spite of* restrictive legislation, religious opposition (Protestant as well as Catholic), and public denunciation of birth control practices in what was generally a "conspiracy of silence" on sexual matters and human reproduction. The prevailing middle-class morality prevented free public discussion, and public authorities harassed militant fringe groups that advocated birth control. With the growing understanding of the impact of high rates of population growth on economic development, the hitherto restrictive atmosphere is rapidly yielding to a climate of public approval and sponsorship of family planning programs which can be expected to accelerate the adoption of contraceptive practice.

(2) In the developing world, except

[1] Africa, Asia excluding Japan and the Soviet Union, and Latin America excluding Argentina and Uruguay.

for Latin America, religious doctrine does not oppose family planning. Religions other than the Catholic and the Orthodox do not have clear doctrinal positions that ban the use of contraceptives, and their views on abortion are often more permissive; for example, the Moslem doctrine forbids abortion after the quickening, but it is far less clear on earlier abortions. This is not to suggest that religion does not play a part in natality differentials in the developing countries; it does, but not in the sense of formal opposition to family planning.

(3) New methods of contraception, derived by intensive research, now offer a wider choice of methods and already include some that seem applicable in poor and peasant cultures. The two major new developments are the oral contraceptives and the intra-uterine devices (IUD's). Even better methods are on the way.

In the Western experience, the decline in the birth rate resulted from later age at marriage; from male methods of contraception, especially *coitus interruptus* and the condom; and from the female method of abortion. These are still much the most common methods of family limitation in the world. The "conventional" chemical and mechanical methods have probably not been of major importance in controlling Western fertility, and seem unsuited to the peoples of the developing world. Continued research will almost certainly produce even more effective, simple, inexpensive, and safe methods, unrelated to the sex act. Not to be overlooked are better techniques of abortion and the general availability and acceptance of abortion in many countries.

(4) The rapid decline of the death rate in today's developing countries is itself an important factor in changing motivations in favor of family limitation. With more children surviving, the pressure of larger families, especially in the context of growing aspirations for the children, is more quickly evident. The change from low to moderate and even high survival rates within a single generation has an impact on parents and grandparents that favors considerably more rapid acceptance of family planning than occurred in the West, where slowly declining death rates were followed by a gradual decline in births.

(5) The traditional view that birth rates and population growth are a "given" not amenable to deliberate social and governmental influence is no longer tenable. Today it is increasingly appreciated among all cultures and strata of people that, within nature's limits, man can control his destiny over births as well as deaths. Numerous surveys in many developing countries on knowledge, attitudes, and practice (the so-called KAP surveys) have shown that the general public, rural as well as urban, is interested in controlling family size. Very few now think it necessary to have as many children "as God wills." On the contrary, almost everywhere there is a substantial "market" for contraceptive knowledge, materials, and services, provided these are made available in a form appropriate to local conditions.

(6) A final point concerns the relationship between population growth and economic progress. Despite impressive aggregate economic gain in many developing countries in recent years (of the order of 4 per cent to 6 per cent per year on growth of real gross domestic product),[2] per capita gains have often been trivial and even negative. In the matter of food and agricultural production, world output since 1958 has grown at about the same rate as world population, but only because the developed world has compensated for deficiencies in per

[2] United Nations, *Statistical Yearbook, 1965.* Tables 183, 184.

capita output in the developing countries.[3] Although primarily agricultural, the developing countries, with over two-thirds of the world's people, account for less than 45 per cent of the world's agricultural output.[4]

POPULATION POLICIES

Confronted with these realities and the failure of their economic development plans to materialize in per capita terms, responsible leaders in developing countries are increasingly concerned with the handicaps of rapid population growth to social and economic progress. Their growing realization that people want and presumably will use available contraceptive information and services has precipitated and reinforced a novel view: that governments can and should do something about high rates of population growth.

The pressures for the adoption of policy are more than a quinquennial affair related to drawing up five-year economic development plans. They are experienced daily in many forms: shrinking plots of land as numerous children inherit their parents' holdings, as in India; in the formidable task of providing schooling for a child population that exceeds 40 per cent of the total population; in crowded urban slums, as rural people migrate to cities to seek escape from the poverty of the countryside; in large numbers of unemployed and many more underemployed; and in growing resort to induced abortion, as in Latin America, where one-fourth of the beds of the major maternity hospitals are occupied by women with complications arising out of illegal abortions.

In response to these and similar forces, population policy has become an accepted part of development programs. By now more than half the people in the developing world live under governments that favor family planning.[5]

Asia

A review of government family planning programs appropriately begins with Asia. In numbers it is the principal home of mankind; it has the most visible population problems; the four largest countries in the developing world are on that continent; and it is the region where national family planning programs under governmental auspices began.

India, Nepal, and Pakistan

The first country to adopt a national policy to control population growth was India. The beginnings, in the mid-1950's, were modest. Major bottlenecks were lack of an administrative structure to reach India's enormous rural population, and acute shortages of medical personnel, especially of women doctors. Except for financial subsidies, authority rests with the individual states. Organization in the Ministry of Health has moved slowly, and the government has been slow to adopt the newer methods of contraception. Nevertheless, the program has gained momentum as indicated by the data on expenditures in Table 1.

TABLE 1—INDIA'S FAMILY PLANNING EXPENDITURES, 1951–1971

FIVE YEAR PLAN	EXPENDITURES (MILLIONS OF RUPEES)
First (1951–1956)	1.5
Second (1956–1961)	21.6
Third (1961–1966)	261.0
Fourth (1966–1971)—Allocation	950.0

Annual expenditures have risen from 13.8 million rupees in 1961–1962 to 60.5

[3] *Ibid.*, Table 6.

[4] *Ibid.*, Table 4.

[5] For official statements of governmental policy on population, see The Population Council, *Studies in Family Planning*, No. 16 (New York: Population Council, in press).

in 1964–1965 and to an estimated 120 in 1965–66.[6] The last two represent per capita expenditures of about two and four cents. The Fourth Plan allocation implies an annual expenditure of $25.4 million or about five cents per person. Food shortages have made India's efforts more urgent. Symbolic of this is the change in name from Ministry of Health to Ministry of Health and Family Planning.

The Indian program has relied chiefly on clinics, which numbered 15,808 in July 1965. Although rhythm and conventional mechanical and chemical methods were first offered, IUD's were introduced in 1965, with one million inserted by mid-1966. Since 1963 over 100,000 male and female sterilizations have been performed per year in "sterilization camps" temporarily set up for this purpose. The cumulative total of sterilizations is soon expected to exceed one million. Oral contraceptives have not yet been approved for general use in India.

Impressive as these recent achievements are, they have not had any measurable influence on the Indian birth rate, except perhaps in the largest Indian cities, where family planning seems to be spreading in the population (but probably as much through private as through government services). The object of the program is to reduce the annual birth rate from over 40 to 25 per thousand population "as soon as possible." Targets rise annually to 1971 when it is hoped to have 19.7 million IUD users, 4.5 million sterilizations, and 4.7 million condom users.[7] Success in this magnitude is indeed necessary for a major impact on the Indian birth rate. India is a country of almost 500 million people, with some 100 million women in the reproductive ages and some 20 million births annually.

Interested in these developments in India, Nepal incorporated a family planning program in its Third Plan, 1965–1970, but it has yet to be implemented.

Pakistan formulated a population control program in the late 1950's which was allocated 30.5 million rupees in the Second Five Year Plan (1960–1965). The objective is to supply family planning services through the existing health services in hospitals, dispensaries and rural clinics for voluntary participation of couples in limiting family size and spacing of children.

These efforts encountered many of the problems noted in India. In the first four years only 9.4 million rupees[8] of the budgeted expenditures of 24.7 million were actually used.[9] The problems related more to administration and organization than lack of funds. The plan for reaching 1.2 million women as contraceptive users and the targets for distribution of contraceptives, specifically condoms and foam tablets, were met only at the level of 17 per cent and 15 per cent, respectively.[10]

In July 1965 the Family Planning Directorate was upgraded to one of the most ambitious in the world today. Its five-year budget of 300 million rupees represents an average annual budget of about 12 cents per person. A major innovation is to be the insertion of IUD's by midwives, under medical supervision. These midwives will receive incentive payments for referrals and insertions. By 1970 no less than 50,000 village midwives are to be recruited and given a five-week training course.[11]

[6] B. L. Raina, "India," in Bernard Berelson *et al.* (eds.), *Family Planning and Population Programs: A Review of World Developments* (Chicago: University of Chicago Press, 1966).

[7] *Ibid.*, p. 119.

[8] One Pakistan rupee equals 21 cents.

[9] E. Adil, "Pakistan," in Berelson *et al.*, *op. cit.*, p. 127.

[10] *Ibid.*, p. 128.

[11] Government of Pakistan, *Family Planning Scheme for Pakistan during the Third Five Year Plan Period, 1965–1970*, pp. 3, 10.

Korea and Taiwan

More immediate success has been achieved in two smaller Asian countries, South Korea and Taiwan. South Korea's Supreme Council for National Reconstruction adopted a national family planning policy in 1961 as an integral part of the development plan. The targets were more specific than in most countries as regards training, use of contraceptives and effects on the rate of growth. By April 1965 some 2,200 full-time field workers had been recruited and trained, one for each 2,500 women in the childbearing ages.[12] Main reliance of the program is now on the IUD. Insertions were 112,000 in 1964, and 233,000 in 1965,[13] against targets of 100,000 and 200,000, respectively. The latter is estimated to be about 15 per cent of the target women, that is, those exposed to the risk of unwanted pregnancy. IUD's and conventional contraceptives are being manufactured in Korea.

The official objective is to reduce the rate of population growth from a current estimate of 2.9 per cent per year to 1.8 per cent in 1971. The Economic Planning Board estimates that by 1980 full implementation of the family planning program will bring down the rate of growth to 1.16 per cent compared to 3.15 without a reduction in the birth rates. The difference in growth rates will mean a per capita income 36 per cent higher in 1980 that would be the case in the absence of a fertility decline.

These ambitious objectives would sound unrealistic were it not for the fact that the government program is clearly "swimming with the tide" of social change. Attitude surveys show an overwhelming approval of family planning in the Korean population and a rapid increase in contraception and abortion,[14] the latter perhaps because of Japanese influence. Though not yet approved by the government, a bill is currently before the Korean Assembly to legalize induced abortion.

In the absence of accurate vital statistics, it is difficult to measure year-to-year changes in the birth rate. An indirect measure, ratios of children under five to women in the childbearing ages, does strongly suggest a recent rapid decline in the birth rate, especially in 1965. Although this decline was already in process, the greater rate of decline in 1965 might reflect the effects of the government program in 1964, when it first reached mass proportions.

Taiwan does not have an official population policy, but family planning services are now provided throughout the island by the Provincial Department of Health. Impetus for the island-wide program stemmed from the mass action research program in the city of Taichung[15] (in which it was first established that the IUD would be widely accepted in a mass campaign) and from experimental projects begun in 1959 under the euphemistically-called "Prepregnancy Health Program." This term paid tribute to the sensitivities of the United States Agency for International Development (AID), which was providing indirect assistance to the health services. The expanded action program for the island as a whole was initiated in 1964, and in 1965 the program effectively

[12] Government of Korea, *Korea, Summary of First Five-Year Economic Plan, 1962–1966.*

[13] Ministry of Health and Social Welfare, Government of Korea, *Monthly Report on IUD Insertions* (mimeographed).

[14] According to a survey made in 1964, one out of three pregnancies among married women in Seoul is terminated by induced abortion. See S. B. Hong, *Induced Abortion in Seoul, Korea* (Seoul: Dong-A Publishing Company, 1966), p. 78.

[15] This is fully described in Bernard Berelson and Ronald Freedman, "A Study in Fertility Control," *Scientific American,* 210 [5] (May 1964), pp. 3–11.

achieved the target of inserting 100,000 IUD's.[16]

The principal feature of the Taiwan plan is insertion of 600,000 IUD's within five years.[17] Were there no removals or expulsions this would mean a loop for one-third of the married women of childbearing age, including those marrying in the interim. Since a substantial percentage of the IUD's are not retained, the net effect will probably be less. Oral contraceptives are being introduced on an experimental basis to provide an alternative method for women who cannot or do not wish to use the IUD.

In contrast with most developing countries Taiwan has excellent vital statistics and other methods of evaluating program success. It can be seen on the basis of the information in Table 2 that the birth rate in Taiwan has been falling precipitously.

TABLE 2—TAIWAN: CRUDE BIRTH RATE

YEAR	RATE
1959	41.2
1960	39.5
1961	38.3
1962	37.4
1963	36.3
1964	34.5
1965	32.7

Source: United Nations, *Demographic Yearbook, 1965,* Table 12.

The government program could not have initiated this decline, but the especially large drop in 1964 and 1965 is to be noted. Rising age at marriage, an increase of about two months per year, is known to be a factor. In addition to its direct effects, the government program may operate indirectly to stimulate greater interest in family planning and in induced abortion. Since abortions are illegal, their number is not known. The real tests of the effectiveness of the government program still lie in the future.

Southeast Asia

In Hong Kong, Singapore, and Malaysia, family planning programs were initiated under private auspices and with government subsidies. The private Family Planning Associations in these areas have been among the most successful in the world. In **Singapore** the government took over the private family planning services in January 1966. These services may well have been a factor in the rapid decline of the birth rate in Singapore from 45.4 per 1000 in 1952 to 29.9 in 1965, although rising age at marriage and changes in age structure were important elements.

Malaysia incorporated a family planning policy in its First Malaysia Plan 1966–1970, adopted in 1965. Voluntary organizations, government departments, and mass communications are to be used for education in and promotion of family planning. The birth rate in Malaysia has been declining, especially among the population of Chinese ancestry. While the role of the private Family Planning Association may have been important in popularizing birth control, its direct services were numerically insufficient to have affected the birth rate.

In **Ceylon**, the government's national family planning program is being introduced by stages into different sections of the country, first in the Colombo area.[18] Ceylon is a kind of Ireland of Asia—its high age at marriage has led to a lower birth rate than in neighboring India. Swedish technical assistance supports the Ceylon program.

[16] Government of Taiwan, *Family Planning in Taiwan, Republic of China, 1965–1966* (1966), p. iii.

[17] Government of Taiwan, *Taiwan, Ten Year Health Program, 1966–1975.*

[18] Government of Ceylon, *Provisional Scheme for a Nationwide Family Planning Programme in Ceylon, 1966–1976.*

Thailand does not have a population policy, but pilot projects in family planning have been strikingly successful, and family planning is now being introduced as an integral part of health services in major hospitals and in the health units of the northeastern region.

Mainland China

Government interest in family planning in **Mainland China** goes back to 1956 and 1957 when a birth control campaign was initiated by the government and services were provided in government health clinics. In 1958 a change of policy slowed the campaign to very low gear, but by 1962 renewed governmental interest became evident. In January of that year import regulations were revised to admit contraceptives duty-free. The government advocated later age at marriage. Japanese doctors visiting China in 1964 and 1965 reported that family planning was being advocated as part of maternal and child health programs and that all methods of contraception, including sterilization and abortion, were available. Oral contraceptives and IUD's manufactured in China were apparently becoming increasingly popular.

According to Premier Chou:

> Our present target is to reduce population growth to below 2 per cent; for the future we aim at an even lower rate. . . . However, I do not believe it will be possible to equal the Japanese rate (of about one per cent) as early as 1970. . . . We do believe in planned parenthood, but it is not easy to introduce all at once in China. . . . The first thing is to encourage late marriages.[19]

Many of the 17 million Communist party members and 25 million Young Communists have received birth control instruction, and they, in turn, are expected to become models and teachers. One son and one daughter are now considered an ideal family size.[20]

Far too little is known about the Chinese program, but it may well be the most important national program in the world, if for no other reason than the tremendous numbers involved. The Chinese population may now be as high as 800 million, equal to about one-fourth of the human race.

Middle East and Africa

Four countries in the Middle East and North Africa have adopted national family planning programs. In the **United Arab Republic (UAR)** the government's interest goes back to 1953, when a National Population Commission was established and a few clinics were opened. Government policy dates from the May 1962 draft of the National Charter, in which President Nasser declared:

> Population increase constitutes the most dangerous obstacle that faces the Egyptian people in their drive towards raising the standard of production. . . . Attempts at family planning deserve the most sincere efforts supported by modern scientific methods.[21]

However, a substantial program was not initiated until February 1966, when the government launched a widespread campaign using oral contraceptives.

In **Tunisia** an experimental program to develop a practical family planning service with IUD's was started in 1964. The success of this experiment led to a national campaign with a goal of 120,000 IUD's.[22] An unusually interesting feature of the Tunisian program has been

[19] As reported by Edgar Snow in *The New York Times*, February 3, 1964.

[20] *The Sunday Times* (London), January 23, 1966.

[21] UAR, Information Department, *The Charter* (draft presented by President Nasser on May 21, 1962), p. 53.

[22] A. Daly, "Tunisia," in Berelson *et al.*, *op. cit.*, p. 160.

the use of Destour party members as a major source of information and publicity. The program may have been set back by President Bourguiba's speech on Woman's Day, August 12, 1966, against celibacy and in favor of a young vigorous population.

In April 1965 Turkey repealed an old law against contraception and provided the legal framework and financial basis for a nationwide family planning program.[23] Full-time family planning personnel are to be trained and added to the Health Ministry, and supplies are to be offered free or at cost. Interesting features of the Turkish program are plans for an informational campaign on birth control in the armed forces (to provide a "ripple" effect when the conscripts return to civilian life) and incorporation of demographic and biological aspects of population into the school curriculum.

Morocco decided in 1966 to adopt a national family program to be introduced by stages through the public health clinics in the various parts of the country. A national sample survey of attitudes on family planning has been started by the government.

Although Algeria has no population policy or program, Dr. Ahmed Taleb, Minister of National Education, stated on the opening of the school year (fall 1966):

> . . . we have to fight an extremely high birth rate. If nothing is done to stop this growth rate through birth control, the problem of educating all the Algerian children will remain unsolved.[24]

Tropical Africa

Although no formal population policies have yet been adopted by countries in Africa south of the Sahara, considerable interest was expressed in population matters at the First African Population Conference held at the University of Ibadan, Nigeria, in January 1966.[25]

Kenya's 1966–1970 Development Plan includes "measures to promote family planning education" through the establishment of a Family Planning Council and by providing services in government hospitals and health centers. In Mauritius the 1966 budget provides funds for family planning services.

Latin America

Latin America has the most rapid rate of population growth of any major region of the world. This has not generally been a matter of much public concern, partly because of the traditional position of the Catholic Church and partly because Latin-American countries have a historical image of themselves as underpopulated.

Two forces are rapidly changing this disinterest. One is the growing recognition that high growth rates are obstacles to achieving planning goals. In many countries population is growing faster than food supply; the difficulties in providing public education, health services, and other facilities are formidable; and the intrusive problem of unemployment and underemployment has serious political as well as economic implications as people flock into the cities. A second element is the growing concern, especially in the medical profession, over the problem of induced abortion. The possibility of family planning appears to be gaining favorable attention both among responsible leaders, and among large segments of the population, according to sample attitude surveys in eight Latin-American capitals (coordinated by the United Nations Latin-

[23] T. Metiner, "Turkey," in Berelson *et al., op. cit.*, p. 136.

[24] Translation from *La Presse*, Tunis, Tunisia, 30 September 1966.

[25] Proceedings to be published in 1967. Also see J. C. Caldwell, "Africa," in Berelson *et al., op. cit.*

American Demographic Center in Santiago, Chile).[20]

Latin-American countries may be less likely to adopt formal population policies than other parts of the underdeveloped world owing to the influence of the Church. However, natality regulation has been approved for the public health service in Chile, and several major birth control projects using public health facilities exist in Santiago. In Honduras the Minister of Health recently announced that family planning is to be an integral part of preventive medical services. In Jamaica a Family Planning Unit has been established within the Ministry of Health with administrative costs provided by AID. In Colombia the private Association of Medical Faculties has established a Population Division, which has organized a nationwide program for training health officers in family planning. In October 1966 AID authorized the use of counterpart funds to finance this program. In Peru a government-sponsored population studies center was established to "formulate programs of action with which to face the problems of population and socio-economic development." Barbados has had an official policy favoring family planning since 1954, expressed chiefly by subsidy of the private Family Planning Association.

EVALUATION OF FAMILY PLANNING PROGRAMS

Most government family planning programs are very new, and it would be unfair to expect major results so soon. Their very existence in so short a time is in itself remarkable. Operating through the existing health network, generally under the Health Ministry, most programs are still largely clinic-oriented despite the common experience that other means may be more effective. Problems of organization; administration; production, distribution and supply of contraceptives; and shortage of skilled personnel are more serious than the question of finance.

Partly because of their newness, the programs have tended to place great emphasis on the magic of the new contraceptive methods. They all have shied away from abortion, which has been a major factor in reducing birth rates in large populations as in Japan, the Soviet Union, and eastern Europe. The present female-oriented programs minimize the role of male participation, which, if not for presently recommended methods, is nevertheless important for information and motivation. Few of the programs have thus far made use of mass communication, and Ministries of Information and Education have yet to be effectively involved.

National programs may be evaluated at different levels: in-service statistics, as, for example, success in reaching targets in number of clinics, patients, contraceptive users, and the like; more broadly in their effects on knowledge, attitudes, and practices of the general population (measured by the so-called KAP students); and, for the present purpose, the effects on the birth rate, the ultimate test of a population control program.

Since very few of the countries of the underdeveloped world have sufficiently accurate vital statistics to measure year-to-year changes in the birth rate, other means must be sought. Censuses can be used to measure natality changes, but these occur too infrequently for the purpose at hand. In the absence of official data, sample registration and periodic sample population surveys are conducted to provide data for measuring year-to-year changes. These have come

[20] C. A. Miro and F. Rath, "Preliminary Findings of Comparative Fertility Surveys in Three Latin-American Cities," *Milbank Memorial Fund Quarterly*, Vol. XLIII, No. 4 (October 1965), Part 2, pp. 36-68.

to be known as Population Growth Estimate (PGE) Studies. Experimental projects of this type are going forward in Pakistan, Turkey, and Thailand.

As programs accelerate, the deficiency in accurate vital data will become increasingly important. In-service data can give good measures of the scope of the programs and their success in achieving targets. However, the number of contraceptive "users," as measured by accepters, can be very deceptive, since failure of the method and, even more important, failure of couples to use methods as required, can significantly reduce "use-effectiveness." This is true of IUD's as well as other effective methods such as oral contraceptives and condoms. Many women do not retain the IUD's or have them removed. In the national program in Taiwan 62 per cent of the women still had the IUD in place at the end of twelve months, 52 per cent at the end of eighteen months. Experience elsewhere has been better, up to 80 per cent retention at the end of a year. In all methods there is substantial shrinkage between ideal use and actual effectiveness in preventing pregnancy.

It should also be noted that family planning programs are most likely to succeed rapidly in countries of greatest socioeconomic advance, where realization of the smaller family ideal has already made some progress. The success of a program in countries like Korea and Taiwan chiefly reflects rapid progress in other ways. In such countries mass acceptance of government services is not an equivalent gain in family planning practice, since many of the couples concerned were already practicing family planning (perhaps by less effective methods or abortion) or would have done so regardless of a government program. In these countries the government program may accelerate a trend already in existence. Indeed, in some countries, the influence of the program on couples to use private sources of supply, methods not requiring supplies, and abortion may well surpass the effect of the direct services offered. Yet this indirect effect is least susceptible to measurement.

SUMMARY AND CONCLUSIONS

By now at least twenty-three nations in the underdeveloped world have explicit official population policies. One is struck by the recency and rapidity with which these programs have come into being. In some instances there is policy, but little if any program; in others, program, but no policy. In most cases neither policy nor program has yet had much opportunity to produce a measurable effect on the national birth rate. Even in those countries with most marked successes, such as Korea and Taiwan, the reduction of the birth rate so far is surely much more the result of general social change than of public policy.

The newness and frailties of family planning programs reflect the tentative approach of governments to their population problems. Thus far, they have involved very small material investments in relation both to economic development plans and to potential economic gains. Some have argued that the "normal" tendency of the birth rate to decline in the course of socioeconomic development will bring about a resolution of present population problems. Government family planning programs now seem to be part of this "normal" development.

With knowledge rapidly becoming available for individual couples to exercise voluntary control over births, fortified by governmental approval and assistance in supplies and medical services, it is quite possible that family planning may progress more rapidly than some other forms of socioeconomic advance. Several non-European areas of

different cultures and relatively low per capita incomes (notably Taiwan, Korea, Singapore, and Hong Kong; Soviet Asia and the western provinces of Turkey; and Argentina and Uruguay) already give clear evidence of reductions in birth rates. Given the favorable attitudes found in the KAP surveys, family planning may be easier to implement than major advances in education or the economy, which require large structural and institutional changes in the society as a whole.

The most rapid progress will come in East Asia where the normal demographic transition is already well advanced. While the evidence is scant, family planning may also move ahead rapidly in Mainland China despite its low level of socioeconomic development. The Communist regime has done much to disrupt the ancient pattern of Chinese family life, which, in any case, based on the experience of Chinese outside Mainland China, is less a barrier to the small family norm than had been supposed.

In India, many cultural practices restrain freedom of sexual expression. Widespread acceptance of sterilization (vasectomy), while not yet sufficient to affect the birth rate, is, nevertheless, surprising evidence of a greater concern for family size among men than might have been supposed. Although ten years old, the Indian family planning program has reached significant proportions only in the last year or so. If present trends continue, both in the national program and in independent individual initiative in contraceptive practice, one may expect a sufficient escalation of family planning to produce a decline in the birth rate. That it will achieve the goal of a birth rate of only 25 per 1,000 population by 1971 seems doubtful, but I venture to predict a perceptible drop from the present level of over 40. At the same time, however, the death rate will probably have dropped below 15 so that to reach the target growth rate of one per cent will require still further reductions in the birth rate.

In Moslem society, family planning is making headway among the upper classes and among populations closest to European influence, as in Albania, Turkey, and the Central Asia Republics of the Soviet Union. Several Moslem countries have population policies (Turkey, Tunisia, the United Arab Republic, Morocco), but other things being equal, family planning is likely to gain slower popular acceptance among Moslems than among most other cultural groups.[27]

As measured by most indices of socioeconomic advance, tropical Africa would not seem ready for widespread family planning practice. Nevertheless, Africans gladly seize on cultural innovation, and a surprising interest has already been shown. One can scarcely expect any measurable effect on the birth rate in a tropical African country in ten years; but in twenty years I would expect this to have occurred.

In Latin America, urban-rural fertility differentials are not so large as in other parts of the world, partly because of the heavy immigration into the urban shanty towns of rural people who have yet to become integrated into urban life. Nevertheless, studies reveal widespread interest in family planning (at least in the large capital cities), and abortion has become very common. A shift in the position of the Catholic Church toward permissive policies, if not outright acceptance of family planning, will accelerate what is already a major social trend.

In several, perhaps most, Latin-American countries I would anticipate a measurable reduction in their very high birth rates within the next ten years.

[27] D. Kirk, "Factors affecting Moslem Natality," in Berelson, *et al., op. cit.*

Within twenty years, growth rates should be markedly reduced despite a continuing decline in mortality. Present fertility plus the inertia of age structure, however, will probably double the population of Latin America by the end of the century.

The picture that emerges is a range in birth rates of 20 to 25 per 1,000 population within a decade in the most progressive parts of East and Southeast Asia, and possibly within two decades in India and Mainland China if those countries avoid war, disaster, and social chaos. By that time, one can expect important reductions in the birth rate in all of the larger developing countries in Asia, in the Middle East and North Africa, and in Latin America. Taking the underdeveloped world as a whole, within two decades I expect to see the solution well in sight, though not yet fully achieved.

These conclusions imply great efforts and accomplishments in the face of cultural resistance and inertia. The achievements will not be easily won, nor will they forestall the massive population growth that, in the absence of catastrophe, will be with us at least through the 1970's. The critical problem of world population growth will remain, though in the longer run there is now real hope for its solution.

Estimating China's Population*

By John S. Aird

Abstract: The population of Mainland China is of critical importance in the study of world population, but it remains an unknown quantity. There are serious doubts about the meaning of historical population figures and the reliability of those collected by the Chinese Communists. The basic problem is that the actual process by which the figures were produced is, in most instances, obscure. Though the 1953 census was probably closer to an actual count of the population than any previous effort, it was evidently defective, and the registration system based on it even more so. Since 1957 there have been no official population totals. If estimates are substituted for missing or unreliable data, they must allow for considerable margins of error in representing the base total and trends in fertility and mortality. Estimates and projections which take account of the particularities of China's situation, past, present, and future, and of the appropriate degree of uncertainty regarding all aspects of China's demographic development will show a wide range of totals for any given year. Yet these estimates may encourage a proper caution in drawing conclusions, greater precision in making demographic assessments, and greater ingenuity in the pursuit of new lines of enquiry.

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* The opinions expressed in this paper are those of the writer and do not necessarily coincide with the official views of the United States government.

SOONER or later, the study of world population must confront the unsolved questions about the population of Mainland China. Though China is not the world's only demographic question mark, it is certainly the largest, perhaps the most intriguing, and probably the most dangerous on which to hazard an uncircumspect surmise. Few statements can be made about China's population which are simple, safe, and significant.

The reason is that the population figures and the relevant descriptive information are difficult to assemble, interpret, and evaluate. The primary sources are in Chinese and either in relatively inaccessible documentary collections or in uncollected and elusive fragments, the pursuit of which constitutes a major diversion away from conventional channels of demographic enquiry. Often there is insufficient detail and continuity among the figures to permit their analysis for internal consistency and plausibility, and where such analysis is possible it usually discloses defects and anomalies. Only limited and sometimes ambiguous information is available on methods of collection and compilation, on the administrative systems in charge of these operations, and on the specific social, political, and cultural contexts within which they occurred, all of which may have introduced biases into the figures. The evaluation of these materials, whether rendered in the abstract or in population estimates and projections, rests upon judgments the criteria for which have not been established. All such judgments are highly uncertain and may be overturned at any time by subsequent research or the course of events. Nevertheless, despite inherent risks, the investigation into the population of China must be pursued, or we talk about the population of a world without China.

This brief paper can give only a general overview of the problems of assessing evidence and preparing population estimates and projections for China and a few of the reasons for trying.

THE CH'ING DYNASTY PAO-CHIA FIGURES

The study of China's population in modern times usually starts with the series of population figures which were initiated by a decree of the Ch'ing emperor Ch'ien-lung in 1741 and continued into the latter half of the nineteenth century. They originated in the records of the *pao-chia* system, an administrative device for transmitting civil control from the lowest level official magistrates through several echelons of unpaid deputies to the individual heads of households. Population reporting was never a primary function of the system. Ideally, the local magistrates were to keep track of the numbers of households and "mouths" in their jurisdictions by consulting the information on the door placards posted on each house, which in turn were supposed to indicate the number of "mouths" residing within. Annual checks and reports were to assure the congruence of the magistrates' records with the demographic realities.

How the totals assembled in Peking were actually compiled is not known, but the system was not supported by practical administrative arrangements and was inherently incapable of producing reliable counts of the population. Contemporary reports of its deficiencies are confirmed by the evidence implicit in the numbers themselves. Both national and provincial totals contain instances of impossible discontinuity and unbelievable regularity. Whatever the numbers signify, they are not demographic data in the modern sense.

Whether, in fact, they provide any

basis for assessment of the magnitude and rate of growth of the population of China, even during the years when the *pao-chia* system had reached its greatest efficiency, is a matter on which professional opinion is divided. Contradictory evaluations of the Ch'ing figures have been made by three well-known scholars, a historian and two demographers, each with a long-term interest in the subject. The historian, Ho Ping-ti, examines the changing administrative system of the Ch'ing dynasty as the key to understanding the population figures.[1] The demographers, John Durand and Irene Taeuber, test the figures themselves against the finitudes of population change and of data-collection methodology.[2] Ho concludes that the coverage of the early *pao-chia* reports was incomplete but that from 1779 to 1850 the figures are a reasonable representation of both the magnitude and the growth trend of the population.[3] Durand questions the reliability of the historical figures as an indication of magnitudes but is inclined to take them, in the absence of better information, as a reflection of trends wherever the trends are generally plausible.[4] Taeuber, after pointing up a number of instances of repetitive reporting and uniform increments in the provincial components of the Ch'ing figures, concludes that neither the magnitudes nor the trends of the total figures, however plausible, can be trusted if the components are manifestly untrustworthy.[5] As to whether the figures may be used to trace the growth of the population, the verdicts of the two demographers could hardly be more divergent. Durand believes the figures may be treated as the best available reflection of the actual trend of growth until more definite evidence is brought against them; Taeuber believes that any such use is naïve as long as the meaning of the Ch'ing figures is in doubt.[6] Such varied judgments reflect a lack of commonly accepted criteria in drawing conclusions from the evidence.

With the outbreak of the Taiping Rebellion in 1851, the already waning Ch'ing dynasty entered a time of troubles which culminated in its overthrow in 1911. During these sixty years, local officials had other preoccupations more urgent than the accuracy of the population reports. All scholars agree that the *pao-chia* figures for these years are worthless for demographic purposes, except to demonstrate how far the alienation of records from realities could go under conditions of extremity.

EARLY TWENTIETH-CENTURY CENSUSES AND SURVEYS

During the first half of the twentieth century, a new interest in population was awakened in China, stimulated by an intense debate in scholarly circles, both Western and Chinese, over the size of China's population and the effects of population on China's economic, social, and political ills. There were those who thought that the population was in the range of 250 to 325 million and that, far from contributing to China's sorrows, it could double with rising living standards, and without

[1] Ho Ping-ti, *Studies on the Population of China, 1368–1953* (Cambridge, Mass.: Harvard University Press, 1959).

[2] John D. Durand, "The Population Statistics of China, A.D. 2–1953," *Population Studies*, Vol. 13, No. 3 (March 1960), pp. 209–256. Irene B. Taeuber and Nai-chi Wang, "Population Reports in the Ch'ing Dynasty," *The Journal of Asian Studies*, Vol. 19, No. 4 (August 1960), pp. 403–417. The studies by Ho and Durand cover more than the Ch'ing era, as the titles indicate.

[3] Ho, *op. cit.*, pp. 3–23, 47–64, 97.

[4] Durand, *op. cit.*, pp. 239–244, 247–249.

[5] Taeuber and Wang, *op. cit.*, pp. 408–413.

[6] Durand, *op. cit.*, p. 249; Taeuber and Wang, *op. cit.*, p. 416.

improvement in basic technologies.[7] Others argued that the population of China was closer to 450 million and that an excess of human numbers was to blame for the miseries of the people and the instability of the government.[8]

The evidence consisted mainly of the results of several attempts by the central government to take a complete population count, a number of investigations in particular provinces, counties, and local units, and numerous estimates prepared on the basis of fiscal, postal, and other records. In their conception and design at least, the censuses and surveys display an increasing consciousness of Western notions of statistics and demography, but in their execution the influence of older Chinese habits of administration seems to have persisted. What actually took place in the field, where the true nature of the numbers is determined, is in most instances as obscure as ever. A count begun by the Ch'ing authorities in 1909 was interrupted before completion by the revolution of 1911. The population reports collected from the provinces by the newly established Republic of China in 1912 could not have been based on independent field investigations. A more ambitious effort was planned in 1927 by the Ministry of Interior in Nanking, but again the local authorities were unable to secure compliance with the census directives, and the provincial reports were still incomplete in 1931. In 1934, the *pao-chia* system was reinstituted in the areas in which it had disappeared. *Pao-chia* records were apparently the basis of the compilations of 1947, which stood for some time thereafter as the latest official figures on the population of China. However, the actual basis of the figures is indeterminable. Some of the areas for which figures were reported were already under Communist control. A national census was planned for March 1951 as part of the United Nations world census program, to be carried out with technical assistance and possibly some financial help from the United States government, but once again history interposed between plans and execution.

Though the investigations of this period produced no firm population totals, they represented a widening range of demographic enquiry. Some local surveys collected information on age and sex composition, vital rates, family size, marital status, literacy, education, ethnic status, and occupation. Most of the data are of uncertain reliability or obviously defective. Some are now being analyzed once more by means of recently developed techniques in the hope of eliciting from them whatever empirical substance their distortions have hitherto concealed.[9]

[7] W. W. Rockhill, "Inquiry into the Population of China," *Smithsonian Miscellaneous Collections* (Quarterly Issue), Vol. 47 (December 1904), p. 320. Rockhill's view of the size of the population was shared by Walter F. Willcox, though with reservations about the supporting argument at some points. See W. F. Willcox, "A Westerner's Effort to Estimate the Population of China and Its Increase Since 1650," *Institut International de Statistique Bulletin*, tome 25, 3eme livraison (La Haye, 1931), pp. 156–170.

[8] Among the scholars who favored higher figures were Chen Chang-heng, "Some Phases of China's Population Problem," *Institut International de Statistique Bulletin*, tome 25, 2eme livraison (Tokyo, 1931), pp. 18*–54*; A. M. Carr-Saunders, *World Population* (London, 1937), pp. 37–39; and Frank Notestein and Chiao Chi-ming, "Population," in John Lossing Buck, *Land Utilization in China* (Nanking, 1937), chap. xiii.

[9] E.g., Irene B. Taeuber, "The Conundrum of the Chinese Birth Rate" (Ottawa: International Statistical Institute, August 1963); and United Nations, Department of Economic and Social Affairs, *Provisional Report on World Population Prospects, as Assessed in 1963* (New York: United Nations, 1964) pp. 85–87.

THE CHINESE COMMUNIST POPULATION INVESTIGATIONS

Immediately upon securing control of the mainland in the summer of 1949, the Chinese Communists abolished the old *pao-chia* regulations and directed the municipal public security bureaus to set up a new system of population registers in the major cities based on new head counts. After the initial police surveys, which usually disclosed population totals larger than those previously indicated, the registration records were to be maintained by entering changes in household composition reported voluntarily by heads of household. But popular distrust of the police was too strong and co-operation too weak; repeated field checks were necessary to update the registers. In the rural areas, surveys of population, cultivated lands, and other details were made in connection with land reform as the basis for equitable redistribution of confiscated land and agricultural implements. These investigations reported rural population totals which were also much larger than previous records had shown.

The new urban and rural totals were published in local newspapers, from which they were compiled in several Chinese atlases, editions of which were in circulation abroad; yet neither the Communist authorities nor foreign scholars took any public notice of the higher population totals implied by these compilations. Between 1950 and 1953, the official sanction of several central agencies in Peking was conferred on various adjusted versions of the 1947 provincial and regional figures which exceeded the 1947 total by 10 to 30 million, but they were apparently not ready to accept the evidence from the new investigations pointing to a total 100 million larger. In 1952 the authorities decided to settle the matter by taking a nationwide census during 1953, the opening year of the First Five-Year Plan.

THE 1953 CENSUS

The stated purposes of the 1953 census were to provide data needed in planning national economic development and for establishing representation in the local and national people's congresses which were to be elected later in the year. There may also have been some unstated purposes related to the investigations of political backgrounds and "class" status to determine voter eligibility. In any case, the time and expense involved in planning, organization, experimental work, and full-scale enumeration by more than 2,500,000 cadres and the completion of the undertaking in spite of obstacles and delays attest to the seriousness of whatever purposes lay behind it.

When the final results of the census-taking were announced on November 1, 1954, a year after the originally scheduled completion date, the reported total of nearly 583 million inhabitants on the Chinese mainland as of the census date, June 30, 1953, was received with shock and incredulity on the part of many foreign scholars. Some suspected that the field offices had inflated their reports to please the Party leaders in Peking, who were supposed to regard a large labor force as the basis of national wealth, or that Peking had inflated the total to impress the rest of the world with the power of China under socialism. Others were ready to grant unhesitatingly that the figure was, as the Chinese Communists proudly boasted, the final answer to the quest for a definitive count of the population. Neither view could have been sustained by an examination of the field reports and news dispatches published in China while the census was in progress. These

left little doubt that a major field enumeration was under way but gave ample ground for doubt that the count could have achieved the level of accuracy of a modern scientific population census.

Between 1954 and 1956, the census records were used as the basis for extending population registration throughout rural China, but the system was in continual difficulties from the start. In some areas the census records were already several years out of date by the time the registers were set up, and, as before, voluntary reporting was to keep the records current, which, as before, it did not. Early in 1956 all population registration was consolidated under the control of the public security departments, leaving no doubt as to its prime purpose. Still, the registers were apparently the basis for the official population figures compiled with much difficulty and some supplementary estimating from the perennially belated local reports by the State Statistical Bureau from 1954 through 1957.

THE DISAPPEARANCE OF STATISTICAL DATA

With the appearance late in 1959 of the registration figure of 647 million for year-end 1957, publication of official population totals came to an end. In January 1958, the Ministry of Public Security issued a new set of regulations intended to discourage the derelictions and evasions of reporting which had plagued the system from its earliest beginnings, but before these could take whatever effect they might have had, the Party extremists had assumed command of all phases of domestic administration and policy. The "great leap forward" was on, and those types of statistics which could be used to inspire production efforts were at once transformed into sheer propaganda. Population statistics, having no such utility, fell into immediate neglect.

Soon after the "leap forward" staggered backward in 1959, a grim subsistence crisis ensued. It was not a good time for counting mouths. By the time recovery was under way in the latter part of 1962, more than four years had elapsed since the registration system had yielded a publishable national total. The tenth anniversary of the 1953 census passed without a new census and without any public recollection of the old one. In the spring of 1964 there were reports that another census was planned as of midsummer, but the few details of that operation which leaked out later indicated that it was no more than a police field check to restore the chronically lapsing population registers. In the latter part of 1964 a rumor circulated among foreigners in Peking that the check had produced a figure which Chinese officials found disturbingly large, but there has been no confirmation of the story.[10] Meanwhile, in the annual issues of the semiofficial *People's Handbook* since 1959, the venerable but aging 1957 year-end total has retained its post as the last really authoritative figure, with no threat of imminent succession.

Larger population figures have occasionally appeared in speeches and articles in China since 1957, mainly between 1959 and 1962, when totals of 660, 670, and "nearly" 700 million were used by Ch'en Yi and others to add numerical weight to the airy substance of the official rhetoric. But from 1962 onward most Chinese spokesmen reverted to the more conventional talking figures of 600 million (the 1953 census world-wide Chinese population total) and 650 million (the year-end 1957 mainland total rounded). In November 1964, by which time the central authorities may have received the results of the

[10] Joan Robinson, "What's New in China?—Peking, October 1964," *Eastern Horizon*, Vol. IV, No. 1 (January 1965), pp. 11–12.

midsummer police check, Edgar Snow was reportedly told by Mao in an interview in Peking that the population records used for rationing had been distorted by false reporting and could not be trusted to produce a reliable figure. Mao added that "some people" thought that the population was as large as 680 or 690 million, but that he himself did not believe it could be that large.[11] Ironically, the recently released communique of the eleventh plenary session of the Eighth Central Committee of the Chinese Communist Party, over which Mao reportedly presided in person, concludes with a reference to "the 700 million Chinese people,"[12] which will certainly set that number echoing from the rostrums of China for some time to come.

However, numbers such as these are neither data nor estimates,[13] and there is no immediate prospect that either will be forthcoming in the near future. Although China supposedly embarked in 1966 on her Third Five-Year Plan, there is no statistical navigator to plot a measured course from a quantitatively known starting point to a quantitatively identifiable destination. The statistical system was swept away in the high tide of the "great leap forward." The rising tide of the "great cultural revolution," with a similar preference for simple faith in Party policies over objective evaluation of Party achievements, is not likely to sweep it back again. China is once more adrift in a numberless void.

DANGERS OF RELIANCE ON OFFICIAL FIGURES

For the present, there is no way of establishing beyond reasonable doubt the degree of correspondence to reality of the official population figures for China during any period in history. The mutually contradictory totals and series for the past two centuries cannot be taken as a representation of long-term population trends. The Chinese Communist data, though they are probably closer to the actual numbers of the population than any previous official totals, are still highly inaccurate by modern statistical standards, and are too often used without proper caution in studies of contemporary China.

In calculating per capita rates which have critical limits, as, for example, in studies of food availability in which consumption levels approach the minimum daily caloric intake, it is obviously unsafe to ignore the possibility that the official population totals may significantly understate the actual numbers of the population. If the trend of population growth is being compared with the increase trend in some other economic parameter for which the growth rate is of a similar order, a very small miscalculation in one or the other may lead to a wrong conclusion. It cannot be assumed that the official population figures are adequate for the purpose in mind unless trial calculations show that allowance for the maximum error in the direction least favorable to the findings of the study will not overturn them. There are also dangers in making free-hand extensions of the official figures for more recent years on the basis of the increase rate implied for 1956–1957,

[11] Edgar Snow, "Interview with Mao," *The New Republic*, February 27, 1965, p. 20.

[12] "Communique of the Eleventh Plenary Session of the Eighth Chinese Communist Party Central Committee" (adopted August 12, 1966), New China News Agency, Peking (in English), August 13, 1966. More ironical still, the number had been used by Chiang Kai-shek nearly two years earlier on the anniversary of the Republic of China. "Chiang Speaks on the Occasion of Double Ten," Central News Agency, Taipei, October 9, 1964.

[13] Any reasonable extrapolation from the series of official population data which ended in 1957, even with ample allowance for lower increase rates during the crisis of 1959–1962, should be close to 750 million as of midyear 1966.

or the mean increase rate for the First Five-Year Plan period, or by interpolating between the 1957 total and one of the later rhetorical figures. The gross misjudgments evident in some of these attempts suggest that population estimating is not something that any man with a desk calculator can do for himself.

Some of the hazards inherent in the official data for China can be avoided by substituting population estimates prepared by demographers.[14] These estimates have been based on a systematic examination of source materials, and some effort has been made to correct or allow for defects in whatever data were utilized in their construction. Usually demographers try to warn users against placing too much reliance on their estimates and point out the margins of error which must be understood if the figures are to be used appropriately. Moreover, their estimates are usually derived from model populations, which lends them at least the aesthetic virtue of internal consistency; their age-sex structures are functionally tied to their assumptions about trends in fertility and mortality, and the movement of totals and components of change reflects the mutual interplay of age composition and intrinsic vital rates. Of course, estimates are no substitute for hard data, and estimates for China may wander far from the mark; but, all in all, there are probably few uses for official data from China for which demographic estimates would not be preferable.

[14] The several sets of estimates available have been designed for different purposes and employ different assumptions and methods of presentation. In making their selection, users should read the explanatory texts with care. The United Nations Department of Economic and Social Affairs has published two sets of estimates employing substantially the same methods and assumptions: *Future Population Estimates by Sex and Age, Report IV: The Population of Asia and the Far East, 1950–1980* (New York: United Nations, 1959), pp. 24–28 and 76–99 and *Provisional Report on World Population Prospects, as Assessed in 1963* (New York: United Nations, 1964), pp. 81–96 and 118–119. A revised version of the latter report is to be published soon. In a paper entitled "World Population Estimates, 1750–2000," given at the United Nations World Population Conference in Belgrade, Yugoslavia, August 30-September 10, 1965, John Durand has included selected figures from his own estimates for the years from 1750 to the present, which are consistent with the United Nations projections from 1960 onward. Population estimates for the First Five-Year Plan period only were presented by John S. Aird (U.S., Bureau of Census, *The Size, Composition, and Growth of the Population of Mainland China,* International Statistics Reports, Series P-90, No. 15, Washington, 1961, pp. 65–91). A new Census Bureau series of estimates and projections covering the period from 1750 through 1985 was prepared during 1965. A paper presenting the figures for the years from 1953 through 1985 will appear shortly as a chapter in a volume edited by Alexander Eckstein, T. C. Liu, and Walter Galenson, tentatively entitled *Economic Trends in Communist China,* to be published by the Aldine Press, Chicago.

PROBLEMS IN CONSTRUCTING POPULATION ESTIMATES FOR CHINA

To construct population estimates, it is necessary to have a base population as of a particular point in time, a pattern of distribution by age and sex, and some measure of the trends in fertility, mortality, and, if significant, migration for the years the estimates are to span. In China's case, where assumptions must often take the place of data, the problems are many. It is generally, though not universally, conceded now that the census of 1953 was probably the nearest thing to a complete head count that has ever taken place in China, hence the census figure is, by default if not by merit, the prime choice for a base population total. However, the census figure must still be regarded as an approximation, and though the evidence suggests that omissions outweighed double-counting, the possibility of a net overcount

cannot be excluded altogether.[15] Since even a moderate margin of error in relative terms signifies very large absolute differences when applied to so large a magnitude, some way must be found to represent the base population as a set of limits rather than as a single total. There is no reason why the census figure should be taken as the midpoint of the range or even as falling within the range at all if the estimator is prepared to argue that the net error in the census figure is clearly in one direction or the other.[16]

If the estimates are to be extended backward over the past several centuries for use in historical studies of world population development, there is another major problem. Prior to the release of the 1953 census results, demographic opinion generally concurred in the view that the century from 1850 to 1953 had seen little or no net population growth in China. The reasoning was that whatever limited increase occurred in the first half of the twentieth century was not much more than enough to compensate for the net loss of population during the major upheavals and catastrophes in the last half of the nineteenth century. This view was not actually based on a comparison of the Ch'ing total of 430 million in 1850 with the official figures and estimates in the range of 450 to 465 million for the 1930's and 1940's,[17] but it was consistent with these figures. However, the 1953 census total, being more than 100 million larger than the figures current in the 1940's, introduces a dilemma. If there was no appreciable increase in the troubled century between, the actual population in 1850 must also have been well over 500 million; if the 1953 census undercounted the population, the 1850 total could have exceeded 600 million, and the Ch'ing figure for 1850, instead of being, as some scholars have argued, an exaggeration of the actual population would have understated the population by anywhere from 15 to 30 per cent and perhaps more. If both the Ch'ing 1850 figures and the 1953 census total are taken as reasonable magnitudes, the idea of a century without population growth must be replaced by an assumption that the population grew by at least 35 per cent; if the Ch'ing total was too high and the 1953 census total too low, the implied increase is greater still. Moreover, if the rather high increase rates implied by the Ch'ing figures are rejected in favor of lower increase rates, the discrepancy between the estimated and the reported totals gets larger the farther back we go.[18]

[15] The writer has argued the case for a net undercount in the census. See U.S., Bureau of the Census, *op. cit.*, pp. 11–29, and John S. Aird, "The Present and Prospective Population of Mainland China," *Population Trends in Eastern Europe, the USSR, and Mainland China* (New York: Milbank Memorial Fund, 1960), pp. 94–104.

[16] For example, if it is assumed that the census was an undercount, and if to represent this judgment numerically the range of undercount is set at not less than 5 per cent and perhaps as high as 10 or 15 per cent, the base range as of mid-year 1953 for the population of China could be between 610 and 650 or even 685 million. If one employs a mechanical assumption of plus or minus 10 per cent from the census figure, the range would be 525 to 610 million. For analytical purposes, the uncertainty about the size of the base population is obviously a serious matter.

[17] The Republic of China, Ministry of Interior, Bureau of Population, published in 1947 a compilation of provincial and municipal population figures for all of China, including Taiwan, which totalled 463 million. *Chüan-kuo hu-k'ou t'ung-chi* [*Household Statistics for China*] (no place of publication indicated), 1947, first table.

[18] For example, accepting the census figure of 583 million for 1953 and assuming no net increase between 1850 and 1953, the total for 1850 is also 583 million, about 35 per cent above the Ch'ing figure. If we carry this magnitude back to 1750 at the rate of increase implicit in the Ch'ing series, which implies a maximum average increase rate in the

Hence a major decision looms: either the Ch'ing figures must be rejected as far too low, or the conception of mortality levels and increase rates between 1850 and 1953 must be rejected as too pessimistic, or the 1953 census total must be rejected as too high, or some combination of adjustments in the directions indicated must be devised. None of these adjustments can be made without contradicting settled scholarly judgments in one quarter or another.

So far as the level of the vital rates for China is concerned, demographers and scholars have generally concurred in the view that fertility levels must of necessity have been high from time immemorial to insure the replacement of numbers in spite of recurrent famine, pestilence, and civil disturbance. Prior to 1953 most Western demographers supposed that the actual crude birth rate for China exceeded 40 per thousand population, and that lower figures obtained in surveys during the second quarter of this century were due to defective counting of births.[19]

Since the release of official birth rates of 37 to 32 per thousand for various years from 1952 through 1957,[20] some demographers have used rates below 40 per thousand and have assumed falling fertility levels as early as 1955 in their population estimates, but others doubt whether the official rates can be trusted or whether either of the two officially sponsored fertility reduction campaigns in China, 1954–1958 and 1962 to the present, have achieved results measurable on a national scale.[21]

It is also generally conceded that the death rate remains today, as in the past, the principal regulator of population growth in China. Although the Chinese Communists have brought about a major reduction in general mortality by maintaining civil order, controlling food allocation, and introducing better sanitation and medical care, the death rates are probably moderate by world standards even in good times and subject to sudden short-term increase during periods of food crisis such as 1959–1962. Professional opinion is unanimous that the official death rates, which range as low as 11 per thousand population, are unreasonable and probably reflect acute underreporting of deaths, but it is hard to devise a rationale for estimating mortality levels directly.

One approach is to derive mortality levels as a residual of the levels assumed for fertility and for natural increase.

late eighteenth century of around 1.5 per cent per year, the total in 1750 is 243 million, also about 35 per cent above the official Ch'ing figure of 180 million. However, if we substitute an increase trend similar to the official one but reaching a peak of only 1.0 per cent per year, the estimated total in 1750 is 308 million, or more than 70 per cent above the Ch'ing figure.

[19] Chiao Chi-ming, Warren S. Thompson, and D. T. Chen, *An Experiment in the Registration of Vital Statistics in China* (Oxford, Ohio, 1938), pp. 40–44, and Marshall C. Balfour, Roger F. Evans, Frank W. Notestein, and Irene B. Taeuber, *Public Health and Demography in the Far East* (New York: 1950), p. 74.

[20] The figures for some years are available only in statistical handouts to several foreign visitors to China in 1958. See Roland Pressat, "La Population de la Chine et son Économie," *Population*, Vol. 13, No. 4 (October–December 1958), p. 570, and S. Chandrasekhar, *China's Population: Census and Vital Statistics* (Hong Kong, 1959), p. 50.

[21] The United Nations estimates prepared in 1963 employ a crude birth rate of 38 per thousand for the period prior to 1950 and continue this rate in one set of assumptions through 1955; another series permits an increase in fertility levels between 1950 and 1955. Thereafter, some series assume the beginning of a long-term trend toward lower fertility rates. The Census Bureau estimates prepared in 1965 assume alternate fertility levels equivalent to crude birth rates of 40 and 45 per thousand as of 1953. These assumptions do not necessarily represent the limits of possibility in either direction. See sources cited in footnote 14.

Here, too, there are problems in determining both historical and current increase rates. In estimates which span long periods of time, small differences in assumed increase rates result in large differences in population totals; in estimates for the current period, small differences in increase rates have little effect on magnitudes, but the differences are more conspicuous because they result in an immediate departure from the trend of the official series, which makes some potential users uncomfortable. Yet a certain amount of boldness in positing assumptions is necessary if the increase trends are to reflect as much historical particularity as possible and also to embrace the reasonable margin of uncertainty without going to absurdity. Needless to say, there is little consensus about what constitutes reason, uncertainty, or absurdity in these matters.

Whatever decision is made about alternate patterns of vital rates for the century prior to 1953 must also determine the alternate patterns of age-sex structure assigned to the 1953 population. The complete census age-sex structure has never been published in an official document, but a close approximation can be pieced together from various fragments contained in official releases, commentaries, and technical articles written by persons in China who apparently had access to some of the original census data.[22] The profile which appears when these materials are assembled is more regular and free of obvious distortion than those obtained in previous investigations of mainland populations, but some anomalies are apparent, especially in the sex ratios at certain ages, which cannot be explained. To prevent these peculiarities from influencing age-sex composition and vital rates in subsequent years, most demographic estimates and projections substitute hypothetical age-sex distributions.

[22] For one such reconstruction, see U.S., Bureau of the Census, *op. cit.*, pp. 65–69.

DESIGNING POPULATION PROJECTIONS FOR CHINA

The problems in making projections for China are similar to those involved in making estimates, but the imponderables are multiplied. Up to the present, though there are no current figures, there is some information on living conditions in China upon which to base estimates of birth and death rates. From this point on, general socioeconomic circumstances must also be projected. But the factors involved are many, their relationships complex, and their future course subject to such wide-ranging possibilities that alternative assumptions about the state of China's national development a decade or two from now scarcely seem to refer to the same country.

It is much simpler to apply to China extrapolations based on generalized demographic experience or on analogies to other agrarian societies which have achieved some success in economic development. However, unless one is prepared to argue that China will necessarily recapitulate the socioeconomic evolution of other places and periods, which few demographers would, there would seem to be little value in multiplying China's size by other peoples' history. If the projections are not to be misleading, they must draw their assumptions from an appraisal of China's own peculiar situation and prospects, with proper regard to the uncertainty which attaches to all aspects of her national development.

If the economy is able to advance under stable and consistent leadership, both fertility and mortality may decline slowly as new economic incentives alter old patterns of family formation and as the general level of health and sanitation improves. If the economy fails to make a significant general advance and if

food production fails to keep pace with population growth, recurrent food shortages may cause mortality levels to rise sharply from time to time and fertility control may be difficult to propagate. If a particularly severe food crisis, a war, or an intra-Party struggle should disrupt the system of civil control upon which rationed food distribution depends, mortality could achieve a scale beyond anything in human experience, resulting in a new relationship between man and resources in China. The extreme alternatives leave wide latitude for intermediate patterns and combinations, the demographic implications of which are harder to define. The extrapolation of recent trends in national development is especially problematical because of the lack of continuity in domestic policies and programs in such critical areas as economic planning, health, civil administration, and fertility control, which change not only with changes in objective circumstances but with each new alignment within the Party Central Committee. Few possibilities can be excluded.

If all the possibilities for China's population are incorporated into alternate estimates and projections, the totals at the upper and lower limits describe an extremely wide range. Estimates for recent years may differ by as much as 100 to 150 million. Estimates which go back to 1750 may have a range of over 250 million with smaller magnitudes. Projections for 1985 have a spread of more than half a billion with no guarantee that all possibilities have been covered. Do such wide-ranging figures serve any useful purpose?

Their use in some studies may serve only to plunge the analysis into such doubt that no definite conclusions can be drawn, which will not enhance their popularity with the users. But to discourage unwarranted conclusions by pointing out the extent of warranted uncertainty in key variables *is* a useful purpose if science and scholarship are to observe adequate standards of quality control in respect to their statistical inputs. Meanwhile, for demographers who work on China, the making of estimates and projections imposes somewhat tighter discipline on the exercise of demographic judgment by requiring that evaluations of the various parameters be quantified, their functional relationships rationalized, and the limits of assumption specified. Moreover, in the case of a country like China, where statistical famines are recurrent and prolonged, the attempt to synthesize demographic and other socioeconomic elements in configurations which express their mutual contingency and thus limit the latitude for assumption points up the inadequacies of current theory and techniques and the urgency of discovering new modes of research. In this way, the study of China's population may ultimately be justified by contributions which go beyond the confines of China area studies and even of demography.

Population and Food Supply[1]

By CONRAD TAEUBER

ABSTRACT: Hunger continues to be an ever-present companion of many millions of people. Although the farmers of the world have grown more food, they have not grown enough more to correct the serious undernutrition which has long existed in many countries. Since the end of World War II, food production has increased about as rapidly as world population, but it increased more rapidly in the richer, better-fed countries, while the poorer countries lagged behind. Two-thirds of the world's 3.3 billion people live in countries with national average diets which are nutritionally inadequate. The diet-deficient countries generally have high rates of population growth, about 2.1 per cent per year compared with about 1.3 per cent per year in the diet-adequate areas. In recent years the gap in available food supplies per person between the rich and the poor countries has been widening rather than narrowing. A growing share of the increase of population in the less developed countries is being sustained by food shipments from the developed regions, especially North America. The possibilities of increasing food production are very large, and they are primarily dependent on increasing the yields of crops and of livestock. New methods, new strains of plants, improved methods of cultivation, greatly increased use of fertilizers, and greater and more effective use of water are major elements in increasing yields. Nonconventional sources of food may in the future add significantly to available food supplies. In many countries, institutional changes are necessary in order to enable farmers to benefit directly from increased production and to make available the information, credit, tools, and supplies needed to increase yields. Rising educational levels are an essential element in programs for such increases.

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[1] This article has drawn heavily on the papers submitted for Meeting A. 7 of the United Nations World Population Conference, held in Belgrade, Yugoslavia, in 1965. These papers will appear in the Proceedings of that conference.

HUNGER continues to be an ever-present companion of a large part of the world's population. Millions of people do not have enough food, and every year some 65 million more persons claim a share of the world's food. Although farmers have grown more food, they have not grown enough more to correct the serious undernutrition which has long existed in many countries. Food production has been increasing more rapidly in the richer, better-fed countries, while the poorer countries have lagged behind. In many countries, the balance between food supplies and population growth is a very narrow one. Failure of normal rainfall or other climatic irregularities in a single year lead to crises in food supplies, and shipments from the countries with more adequate food supplies are necessary to maintain even the low levels of nutrition which prevail. Generally favorable weather, as in 1958–1959, may lead to a temporary increase in the available food in many countries. However, rapid growth of population continually requires an increase in production if current levels of nutrition are to be maintained. In many countries, the size of the population is so great, and the rate of growth so high, that very large numbers of people are added every year, and the problem of increasing food supplies is correspondingly great. If nutrition is to be brought up to generally accepted levels of adequacy for health and normal physical activity, food production in the developing countries must increase more rapidly than population, or non-food production must increase sufficiently to secure the required food through international trade. Reduction of the rates of population growth is of primary importance in improving the levels of nutrition of the population of those countries.

THE FOOD SITUATION

Two-thirds of the world's 3.3 billion people live in countries with national average diets which are nutritionally inadequate. The diet-deficit areas include all of Asia except Japan and Israel, all but the southern tip of Africa, the northern part of South America, and almost all of Central America and the Caribbean. The diet of the people in these areas averages 900 calories per day below the level of the one-third of the world living in countries with adequate diets in 1959–1961. The deficit was an average of 300 calories per person per day below the minimum nutritional level of 2,300 calories required for normal activity and health. The daily consumption of proteins was less than two-thirds and the consumption of fat was less than one-third that of the diet-adequate countries.[2]

This, of course, does not mean that all people in a diet-deficit country have inadequate diets. In fact, a large number may be well fed, while others fall substantially below the national average. Food deficits in some countries are very large. It is estimated, for example, that if food supplies in India in the early 1960's had been distributed at the rate of 2,300 calories per person per day, 48 million persons would have been left without food. If these same food supplies were distributed at the United States consumption rate of 3,190 calories per person per day, 153 million of India's people would have been without food.[3]

[2] Quentin M. West, "World Food Needs," U.S. Department of Agriculture, Foreign Regional Analysis Division, Economic Research Service (Washington, D.C., 1966).

[3] U.S., Department of Agriculture, Economic Research Service, *Changes in Agriculture in 26 Developing Nations, 1948 to 1963*, Foreign Agricultural Economic Report No. 27 (Wash-

The diet-deficit countries are poor, and the food deficits are part of the low levels of income and of living. These countries generally have high rates of population growth; about 2.1 per cent per year compared with 1.3 per cent per year in the diet-adequate areas.

In recent years the gap in available food supplies per person between the rich and the poor countries has been widening rather than narrowing, in spite of all the efforts to promote economic development which have been made by national governments and international agencies.

The relationship between population and food supplies is not a simple relation between limited physical resources and population with an irresistible tendency to grow. Important institutional and cultural factors are involved. Many of the industrially developed countries have had rapid increases in agricultural production, along with a slowing down of rates of population growth. Elsewhere, traditional agriculture and small farms have tended to favor large families.

The rapid growth of the nonfarm population in many areas of the world has aggravated the food problem, for it has increased the demand for food and has also imposed the difficult task of improving the distribution system to move food from the producing areas to the cities Not only must there be an increase in total food production, but marketing facilities must be developed to transport, store, process, and distribute the farm products. Population pressure exerted through a growing urban and industrial population often leads to an improvement in agricultural techniques to meet the increasing market demands, whereas increasing population on the land might lead chiefly to an increase in production for subsistence of the people on the land with no improvement in productivity.

Economic development and increasing income per person, lead to changes in the demand for food and in the proportion of food which is marketed. With rising incomes, people consume more food. They also desire higher-quality food, which, in turn, requires greater input of agricultural resources. Rising prices, however, may also result in a decline in the proportion of total production which goes to market, for, as farmers become more prosperous, they often retain a larger share of the product for their own consumption.

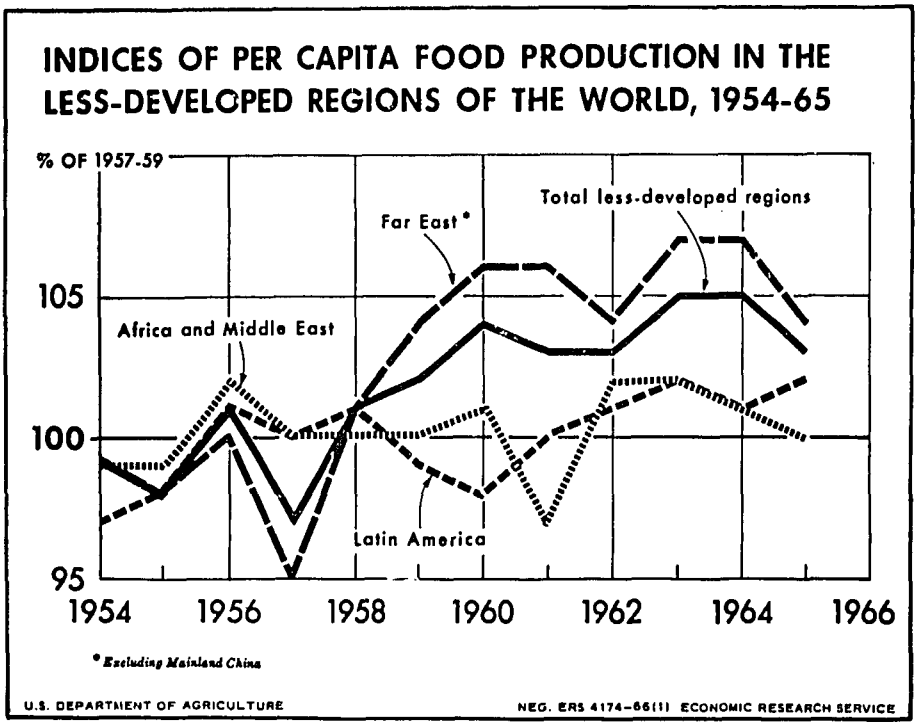
RECENT TRENDS

One aspect of the world food situation is dramatically reflected in developments in world food trade in the past three decades. Prior to World War II, the less developed countries were net exporters of eleven million tons of grain per year to the more developed countries. After the war, these nations became importers of food. The level of imports increased during the 1950's and 1960's, and by 1965 the total imports amounted to about 25 million tons of grain. A growing share of the increase of population in the less developed countries is being sustained by food shipments from the developed regions, especially North America.[4]

The recent imbalance in the rates of growth of population and food production, especially in the less developed regions of the world, coupled with an awareness of the prospective rates of

ington, D.C.: U.S. Government Printing Office, 1965).

[4] Lester R. Brown, *Increasing World Food Output: Problems and Prospects*, Foreign Economic Report No. 25, U.S. Department of Agriculture, Economic Research Service (Washington, D.C.: U.S. Government Printing Office, 1965).



Source: Quentin M. West, "World Food Needs," U.S. Department of Agriculture, Foreign Regional Analysis Division, Economic Research Service (Washington, D.C., 1966).

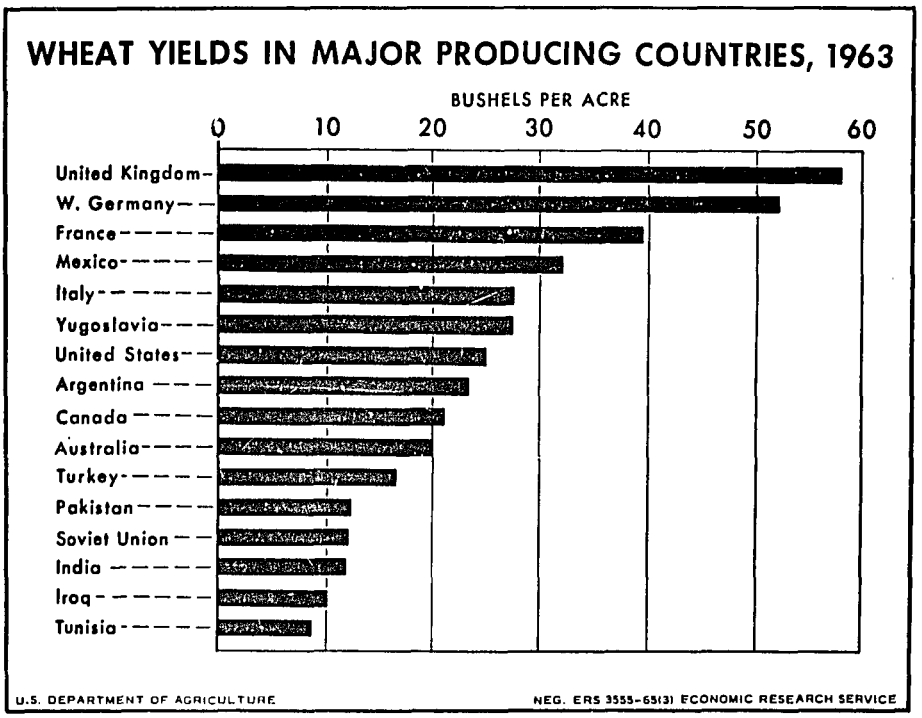
TABLE 1—INDICES OF WORLD AND REGIONAL FOOD PRODUCTION IN RELATION TO POPULATION

(Indices, average 1952/53–1956/57 = 100)

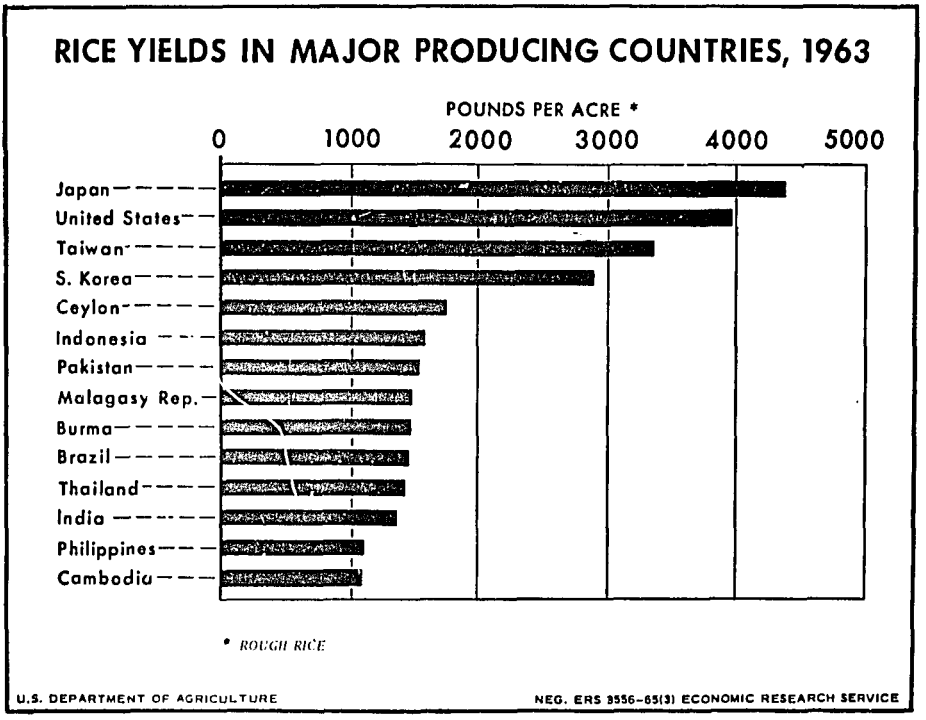
REGIONS	FOOD PRODUCTION (PER PERSON)					
	Prewar average	Average 1948/49–1952/53	1953/54	1958/59	1963/64	1964/65 (Preliminary)
Western Europe	93	89	102	106	117	116
Eastern Europe and U.S.S.R.	84	92	96	123	119	127
North America	85	99	100	101	103	100
Oceania	108	102	102	106	112	117
Subtotal	85	94	99	109	113	114
Latin America	104	97	98	105	101	101
Far East[a]	106	93	101	103	105	104
Near East	96	93	103	107	107	102
Africa	98	99	101	97	96	96
Subtotal	102	95	100	103	103	101
Total[a]	95	95	100	106	107	106

[a] Excluding China (Mainland).

Source: *The State of Food and Agriculture, 1965 (Review of the Second Postwar Decade)* (Rome: Food and Agriculture Organization of the United Nations, 1965).



Source: Lester R. Brown, *Increasing Food Output: Problems and Prospects,* Foreign Economic Report No. 25, Economic Research Service, U.S. Department of Agriculture (Washington, D.C.: U.S. Government Printing Office, 1965).



Source: Lester R. Brown, *Increasing World Food Output: Problems and Prospects,* Foreign Economic Report No. 25, Economic Research Service, U.S. Department of Agriculture (Washington, D.C.: U.S. Government Printing Office, 1965), p. 77.

growth of population in the future, have again raised the old question whether the earth can provide food for its increasing numbers. The question is often asked whether the present imbalance foreshadows a situation in which hunger will offset the gains that have been made in the control of infectious diseases and whether the long and rapid declines in death rates will give way to an increase in death rates because of irregular and insufficient nutrition. For the world as a whole, the growth in population may be expected to occur disproportionately in the areas which now have a relatively low level of nutrition.

The dramatic reductions in death rates in recent years have been based largely on the effective application of modern antibiotics and chemicals and not on a broadly based economic and social development. The countries which are industrialized, urbanized, and educated have low birth and death rates and slow population growth. Another group of countries consists largely of rural, agricultural, and illiterate populations, with declining or even low death rates, but with birth rates at traditional high levels and, hence, with rapid population growth. It is the latter group of countries which have barely increased their food production rapidly enough to hold the per capita figures at a constant level, or have actually experienced a decline in their production of food per person. Improving the level of food supplies and the level of nutrition will require major efforts of economic and social development, including both a decrease in the rate of population growth and an increase in the level of food production.

Food production has increased in the less developed countries over the past thirty years at a rate of a little more than 2 per cent per year. However, most of the increase has been offset by the growth of population. As a result, food production per person has increased less than one-third of one per cent per year in those areas since the prewar period. The gains in food production per person which have occurred in recent years occurred chiefly in the late 1950's; the less developed regions as a group have registered no gains and some losses in the 1960's.

In Latin America, food production per person exceeded the prewar level only in the particularly favorable season of 1958–1959, and has since fallen below the earlier level. The prewar level was regained in the Far East (excluding Mainland China) in 1959–1960. This level held for the following three years, but more recently the figure has again fallen to a level below that of the prewar years. Africa, too, exceeded the prewar level briefly for a few years after the war, but fell below that level more recently. In the Near East, the figures reached a peak in 1958–1959, and have since been equalled but not surpassed.

The only regions in which food production per person has continued to rise in the last few years are western Europe and Oceania. In eastern Europe and the Soviet Union, nearly the whole of the substantial gain in production per person was made in the three years, 1955–1956, 1956–1957, and 1958–1959, and there have been some small gains since then. In North America, the level of production per person has been kept down by measures to restrict surplus production in the United States.

For the four developing regions (Latin America, Far East, Near East, and Africa), food production per person in 1964–1965 was slightly below the prewar level. In the four more developed regions (North America, Oceania, eastern Europe, and western Europe), the figure for the later year was nearly 25 per cent above that for the prewar years.

There are, of course, large differences

among the individual countries of these less developed regions. A recent report of the United States Department of Agriculture compares the situation in twenty-six developing countries from all regions of the world. Between 1948 and 1963, twelve of these countries had increases of more than 4 per cent per year in crop output. These countries were: Brazil, Costa Rica, Israel, Mexico, Philippines, Sudan, Taiwan, Tanganika, Thailand, Turkey, Venezuela, and Yugoslavia. Their rates of increase were greater than those ever achieved by the economically developed countries during a comparable period of time. The success of these twelve countries, with widely diverse conditions, suggests that large increases in food production can be achieved. The rapid rates of increase in crop output were the result of aggressive group action, generally national in scope, directed specifically to improving agricultural production. The difficulties in achieving such increases are perhaps illustrated by the fact that in five out of the twenty-six countries rates of increase in crop output failed to exceed population growth rates, and in two of them (Tunisia and Jordan) population grew more rapidly than crop production.[5]

THE NEED FOR INCREASED PRODUCTION

Increasing agricultural production sufficiently to keep pace with and support current high rates of population growth poses major problems, as the experience of recent years has demonstrated. A country must increase its food production by at least the same rate as its population in order to hold its own. Alternatively, it must increase nonagricultural production sufficiently to enable it to import the needed food. Increasing food production to keep up with a 2 or 3 per cent annual population increase is a major undertaking. However, as the Food and Agriculture Organization of the United Nations has pointed out, just keeping up current consumption levels is not enough, and any realistic assessment of food requirements must also take into account the need for improvement of existing diets. In large areas of the world, diets fall far below the standards of adequacy. Improved nutrition in many cases would, in turn, make significant contributions to production, for it would enable workers to be more effective. The Food and Agriculture Organization summarizes the situation as follows:

> Merely to keep pace with the expected population increase without any improvement in diets would require total food supplies to be almost doubled by the year 2000, but present dietary levels in the developing countries are so inadequate that actual needs are far greater than this. Of the present world population, 10 to 15 percent are undernourished and up to half suffer from some degree of hunger or malnutrition or both, according to FAO's Third World Food Survey. The survey sets targets for nutritional improvements which would involve increasing total food supplies in the developing countries to four times the recent level, and their supplies of animal products to six times this level by the turn of the century.[6]

INCREASING FOOD PRODUCTION

The question of whether the earth can feed its present population, or the population that is in prospect in the foreseeable future, in one sense simply poses the dilemma of population and food supply. If food supplies are insufficient to sustain the growing population, then severe undernutrition and starvation would again exercise their historical function of restricting pop-

[5] *Changes in Agriculture in 26 Developing Nations, 1948 to 1963, op. cit.*

[6] *The State of Food and Agriculture, 1965 (Review of the Second Postwar Decade), op cit.*

ulation growth. On the other hand, if food supplies continue to increase as population increases, the question then becomes not one of survival, but rather of the quality of life which the increased numbers could have.

The world's resources are adequate to provide for the needed increases in food production for the foreseeable future. There is also a growing body of basic knowledge and of technology which offers major possibilities of meeting the increasing needs. This does not necessarily mean that these resources, or the technology, can or will be used to increase food production rapidly or extensively enough to forestall a crisis, nor can it be said that the resources are so distributed that each country has or can readily secure the needed increase in production.

The world-wide supply of the basic chemical requirements is generally considered to be more than adequate for the needs of a population that is many times the present world population. The problem is, rather, to have these supplies available at the time and place where they are most needed and to have them used effectively.

Increases in output of agricultural crops can be achieved through two principal means: (1) by increasing the area under cultivation, and (2) by increasing the yields of the crops which are grown. Throughout much of man's history as a cultivator, and even in recent times in some countries, increases in food production have come principally from increasing the cultivated area. Large portions of the world's arable land have now been brought under cultivation, and it will be increasingly costly to clear much of what remains. In a few less densely populated countries, particularly in South America and some parts of Africa, there are substantial areas which can be brought under cultivation. The cost of bringing this land under cultivation is not known and would no doubt change substantially with changing circumstances.

Nearly half the world's people live in less developed countries, which to a large extent have fixed land economies: that is, almost all of the land that can readily be cultivated is already in use. Although some limited amounts of land may be brought under cultivation or restored to cultivation, the continuing growth of the population is such that the land per person for food production is expected to shrink substantially below present levels.

Increases in food production must more and more come from increases in the yield of crops and livestock. Much can be done to improve the productivity of labor in agriculture, as well as the productivity of the land, though there are wide variations in the quality of the soil and in the amount of rainfall. Increased irrigation and more effective use of water offer opportunities for increased yields. Everywhere it will be necessary to increase capital inputs and to apply new techniques. This is a course which has been followed in the developed countries, especially those with surplus agricultural production. It is not an easy course for the less developed countries, but it is essential.

The basic materials and much of the needed knowledge are available, although much fundamental research remains to be done, especially in some tropical and subtropical areas. The first problem is one of developing and applying the necessary technology. Capital, education, social and economic organization, personal motivation of the cultivators, especially land reform and adequate returns to farmers, are all involved, along with the basic sciences of food production. Government policies play a dominant role in developing programs for increased production. The failure to make effective use of

available technology is a major element in the failure to increase food production as rapidly as is needed. In view of the wide range of conditions, rates of growth in food production will vary widely, as yields and rates of increase of yields now vary widely.

In many instances, the major task is that of persuading masses of individual farmers that it is in their own interest to accept the new techniques and the financial risks which they may entail. The prevalent illiteracy places a high value on the methods that have been handed down by tradition. The small amount of resources which the average farmer commands in most developing countries makes him wary of accepting risks other than those to which he has been accustomed. The terms under which he holds his land may be such that he has no assurance that he will benefit adequately from the increased production which he might achieve. The average farmer must be convinced that he can improve his lot and that the necessary resources are available to enable him to do so. Unless that is done, the availability of improved strains of plants and animals and the existence of the other resources for increasing agricultural production will be largely ineffective.

During the past quarter of a century, all of the increase in food output in North America and western Europe came from rising yields per unit of area. Yield per acre increased by 109 per cent in North America; in contrast, yield per acre increased only 7 per cent in Asia and for all of the less developed countries in the world, by only 8 per cent.

One computation concludes that if the world's population were to be 8 to 10 billion persons, the Japanese level of efficiency in level of production would have to spread over all of Asia, and an agricultural efficiency equivalent to that of western Europe would have to be spread over the rest of the world's agricultural lands, which, in the meantime, would have been expanded by about 50 per cent.

Increased yields call for the use of more productive varieties of plants, adequate supplies of water and of plant food, improved cultural practices, and the capacity to carry these out at the right time. Other measures include protection of the growing crop against pests and diseases, reduction of losses in the storage and transportation of food, and improved tools and mechanization which can add materially through better cultural practices. Although the evidence is overwhelming that the application of fertilizers increases yields, only about one-tenth of the plant nutrients which are applied as fertilizers are applied in the less developed countries.

The size of the task ahead is indicated by some projections prepared by the United States Department of Agriculture, which conclude that to obtain the level of food production expected by 1980 would require that Asia increase its use of fertilizer from three million metric tons of plant nutrients to almost thirty million. Africa would need to increase its use from one million to three million tons, and Latin America, from one million to four million tons. Increased use of fertilizer is one of the most effective means of increasing yields. It is estimated that about half the increase in yields in the United States in the last twenty-five years is due to the increased use of fertilizers. Japan, with its highly productive agriculture, uses more than 250 pounds of plant nutrients per acre of arable land; India uses less than four pounds.[7]

Although major emphasis is generally put on increasing crop production, there are also major possibilities of increasing

[7] Quentin M. West, *op. cit.*, see footnote 2, p. 74.

livestock production. In the countries with an advanced livestock industry, yields are 6 to 100 times as great as those in the less developed countries. Most developing countries are still applying traditional methods of livestock production and utilization and fail to make efficient use of existing resources.

The more effective utilization of the available fish resources in most parts of the world could make a significant contribution to diets, especially in meeting requirements for proteins.

For the immediate future, major reliance must be placed on the conventional sources of food and on more effective utilization of available foods. Nevertheless, there is promise that ongoing research will develop other sources which may play a very important role in the longer run. Protein concentrates can be produced from sources which have not been generally used. The sugar and wood pulp and paper industries could become the sources of sizeable quantities of edible yeasts. Some recent work has shown the possibility of securing proteins from yeasts that grow on certain hydrocarbons obtained in the refining of crude petroleum. Pilot mass cultures of algae have been generally encouraging in relation to the quantity produced and the acceptability of the product. There are promising possibilities of extracting protein directly from green leaves. Atomic energy is playing an increasingly important role in scientific research leading to improved yields and to the effective control of fungal and bacterial infection and of insect pests. A breakthrough in the desalination of salt water would revolutionize the possibilities of expanding food production.

These and related developments could significantly alter the evaluation of the possibility of providing increased and improved food supplies. However, account must also be taken of the time and investment that may be needed to translate laboratory results into economically feasible production, to develop the necessary mechanism for distribution of the product, and to secure widespread consumer acceptance. Meantime, population growth would require an intensification of the search for additional food.

THE ROLE OF THE UNITED STATES

The United States has become such a dominant factor in world trade in food products that it is often looked upon as the source of food supplies which could be made available to fill gaps. It accounts for about two-fifths of the world trade in wheat and flour, about one-sixth of the trade in rice, nearly all of the trade in soybean and cottonseed oil and seeds, and is the leading exporter of poultry and lard. Agricultural exports under government programs to the diet-deficit subregions increased over four times between 1955 and 1964.[8]

Although these shipments have been very large, and will probably increase, they cannot in the long run take the place of increases in the production in the countries themselves. Only about 5 per cent of the rice production and a little more than 20 per cent of wheat production move in international trade. Their importance in meeting emergency needs and contributing to rapid economic growth has been demonstrated in many instances, but food aid is at best a temporary and an inadequate measure to meet food deficits. Current proposals to increase American food production in order to meet food deficits in other parts of the world can be of

[8] U.S., Department of Agriculture, Economic Research Service, Foreign Regional Analysis Division, *The World Food Budget, 1970*, Foreign Agricultural Economic Report No. 19. (Washington, D.C.: U.S. Government Printing Office, 1964), p. 71.

major value in assisting the recipient countries to adjust their agricultural production to the growing needs. If, as is proposed, the efforts to increase food production in the developing countries of the world are coupled with effective assistance to programs to limit the rate of population growth, a major contribution can be made to the age-old problem of feeding the hungry people of the world. The United States is teamed with other developed countries in this effort. Its production is so large that, of necessity, it plays a major role in any activities that are directed to these ends. The major contribution must come from the developing countries themselves. Greater food production, or other economic development which can be used to finance commercial imports of food, and reduced rates of population growth are essential if the diet-deficit countries are to overcome their food gaps.

Population, Natural Resources, and Technology

By Edward A. Ackerman

L'ère du monde fini commence.
—Paul Valéry

Abstract: The developed and developing countries of the world may be divided roughly into four types: technology-source areas with high population-resource ratios; technology-source regions with low population-resource ratios; technology-deficient areas with high population-resource ratios; and technology-deficient areas with low population-resource ratios. The most critical problem of production is that of increasing food supply at the same or a greater rate than the increase in population. Technology must play a key role in any plans to increase food production. The technology exists for vast improvements in agricultural production in the deficient countries, and there are few obstacles to its export from the source areas. However, there are important obstacles to the flow of technical improvements in the deficient countries themselves. Resources exist for a possible severalfold increase in the world's population. However, there is doubt that improvement of food production can keep pace with population increase. Either a marked acceleration of the flow of technology or a marked reduction in population increase will be needed to avoid a world food crisis within this century. Over the longer run, limits exist for the number of people and the level of living that they can enjoy. The future adequacy of resources and technology will depend as much upon ethical choices and political decisions as on science and engineering.

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THE principal objective of this article is a portrayal of the role that technology may be expected to play in the future capacity of natural resources to support increasing numbers of people. "Natural resources" will be considered to include food-producing resources, the first concern of most human beings. We shall be interested in answers to two questions: (1) Can technology alleviate problems of population "pressure" existing in several regions of the world in the near future, and, if so, under what conditions? (2) What hope can technology provide for the support of the world's population over the long run, that is, indefinitely into the future?

TECHNOLOGY-SOURCE AND TECHNOLOGY-DEFICIENT REGIONS

Nearly every literate person today is familiar with a journalistic distinction between the *developed* and the *developing* countries. This crude classification calls attention to technology. Resources become productive to men mainly through the medium of culture. The comparative state of a country's technology, therefore, tells us something about the availability of its resources. The more advanced the technology, the greater will be the country's capacity to support people from the resources it has. But in addition to this, one must take account of the existing density of population and its potential natural resources.

Instead of *developed* and *less developed,* one may classify the world into *technology-source* and *technology-deficient areas.*[1] In addition there are areas with high population-resource ratios and areas with low population-resource ratios.[2] To complete the simple criteria of classification we should distinguish between the unproductive natural environments, like the deserts and arctic regions, and the actually or potentially productive, comprising the remainder of the earth's land area.

With these few criteria we can produce a simple but useful classification of the countries and regions of the world that reflects their population-resource relations and technology status: (1) technology-source areas of high population-potential resource ratios (European type); (2) technology-source areas of low population-potential resource ratio (United States type); (3) technology-deficient areas of low population-resource ratios (Brazil type); (4) technology-deficient areas of high population-resource ratio (India-China type); and (5) the arctic-desert type, technology-deficient and with few potential food-producing resources (Figure 1).[3]

On the basis of these simple distinctions some interesting observations can be made about the regional attributes of the world's population-resource relations. The most striking single observation is that more than one half of

[1] One indicator of technologic state is the number of patents granted for inventions. All but a very small percentage are to persons or organizations in the technology-source areas. Agricultural yields are another indicator.

[2] One available indicator of the population-resource ratio is the ratio of people to agricultural land. A rough dividing line between the low population-resource and high population-resource countries is about 0.6 person per acre of agricultural land in use. Most East Asian countries have one person per acre or more. See data in U.S., Department of Agriculture, *World Food Budget 1970,* Foreign Agricultural Economic Report No. 19 (Washington, D.C.: U.S. Government Printing Office, Table 6); and V. M. Dandekar, "Role of Food Aid Under Conditions of Rapid Population Growth," Meeting A-7, Table 1, *Second United Nations World Population Conference,* Belgrade, 1965.

[3] Classifications shown on Figure 1 are intended as generally illustrative. The boundaries of regions are generalized.

WORLD, CONTINENTS
European type (Technology-source; high population-resource ratio.)
1
United States type (Technology-source; low population-resource ratio.)
2
India-China type (Technology-deficient; high population-resource ratio.)
3
Brazil type (Technology-deficient; low population-resource ratio.)
4
Arctic and desert type (Technology-deficient; few food producing resources.)
5

Figure 1

the world's people live in the technology-deficient areas with a high ratio of population to potential resources. Among the countries in this classification are China, India, Java and some of the other islands of Indonesia, Korea, Egypt, Pakistan, and Iran. Although data are incomplete, the best available observations leave no doubt that many millions of people in these areas are malnourished, particularly because of protein shortages, but also because of inadequate caloric intake. The probable daily average for most people in these countries is 2,100 calories or fewer, compared with the estimated minimum of 2,400 calories needed for health. Many of the 300–500 million people considered seriously undernourished by the Food and Agriculture Organization's Third World Food Survey live in these countries.[4] For all, there is the problem of resource adequacy, and the equilibrium that is kept between population and resources would appear to have a strong Malthusian element.

At least two-thirds of the total population of the technology-deficient countries live under natural conditions where vagaries of weather, particularly drought, cause notable fluctuations in the productivity of food-producing natural resources. These lands have little "cushion" to protect them against the inevitable fluctuations in natural productivity found in varying degrees throughout the world.

The remaining half of the world's population is divided about evenly among three of the other population-resource types. About one sixth live in the technology-deficient countries of low population-potential resource ratios. They are exemplified by much of Africa and Latin America. The principal problem of this group is the lack of immediate adequacy of employed resources, a condition from which they generally suffer because of technical deficiencies. Many people in these countries live near potentially productive resources, but they still exist close to the subsistence living level of the technology-deficient densely settled lands.

Another sixth of the world's population live in countries or regions where industrial organization and technology permit them to extend their resource base through world trade, thus effectively meeting the deficiency of their low domestic per capita resource production. These are the technology-source areas with a high population-resource ratio. The western European countries and Japan are illustrative of this group. Although their present position is relatively secure for available resources, they are vulnerable over the long run to competing demands from other lands for resources they now draw upon outside their own territory.

A final sixth of the world's population live in countries that are technically advanced and have territory that permits relatively low ratios of population to potential resources. The United States, important sections of the Soviet Union, Canada, Australia, and others come within this group.

TECHNOLOGY TRANSFER: THE CASE OF A WORLD SYSTEM OF FOOD RESOURCES

If one starts with the simplest and most basic of all human needs, that of food, one finds a world in want, where a major part of the world's population lacks both adequate food and the technology that could promise to produce

[4] P. V. Sukhatme, V. Schule, and Z. M. Ahmad, "Demographic Factors Affecting Food Supplies and Agricultural Development," Background Paper, Meeting A-7, *Second United Nations World Population Conference*, Belgrade, 1965, p. 13. See also U.S., Department of Agriculture, Economic Research Service, *Changes in Agriculture in 26 Developing Nations, 1948 to 1963*, Foreign Agricultural Economic Report No. 27 (Washington, D.C.: U.S. Government Printing Office, 1965), p. 3.

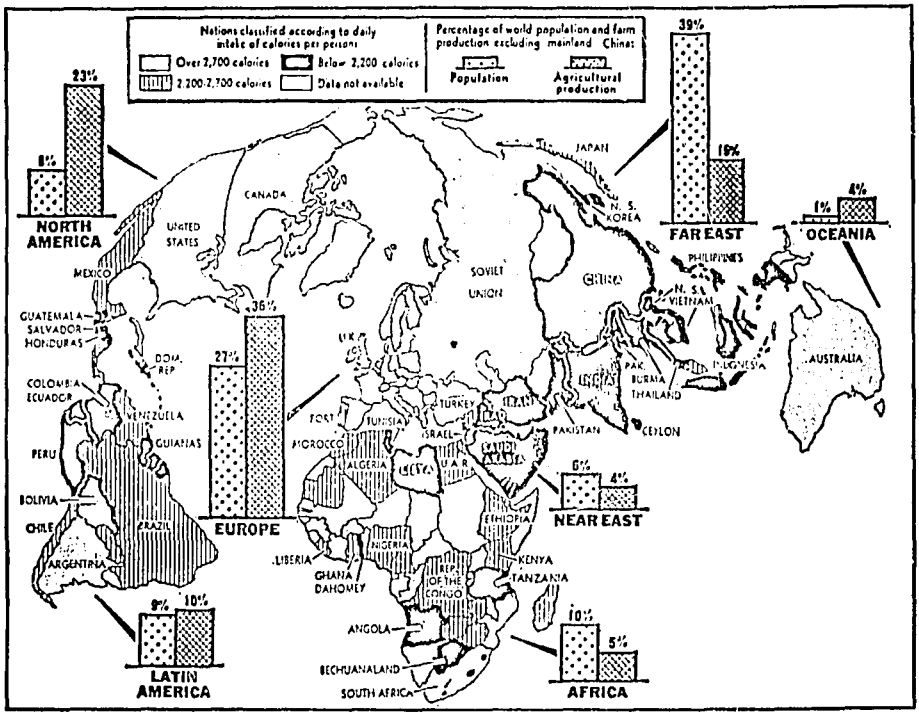


Figure 2 (Source: *New York Times*, January 24 1966).

more food in the future. Furthermore, the problem of adequacy of present supplies is not limited to those countries that have a high ratio of population to resources. If one examines a map of comparative food intakes (Figure 2) he will see that low per capita intakes are spread throughout the technology-deficient area with little relation to population density-resource ratios. Every country with daily caloric intakes of less than 2,700 calories per person may be assumed to have a resource adequacy problem in supporting all or a major part of its population. Technology deficiency and adequacy of *employed* resources as distinguished from *potential* resources thus appear to be covariant.

What hope, if any, can improved technology offer to the technology-deficient lands, whose deficiency is reflected in unacceptably low living levels for large sections of their populations? For the time being we shall confine our discussion to the basic matter of food-producing resources.

There are four general ways in which technology can increase the output of food-producing resources: It can promote (1) an increase in yields of all food-producing resources now under exploitation, (2) the future employment of resources that are not now used, (3) conditions that permit adequate exchange of foodstuffs between surplus countries and deficit regions, and (4) the development of nutritional value from materials not presently serving as human food.

For the purpose of examining our first question—the capacity of technology to alleviate problems of population pressure in the immediate future—it will be helpful to model the world roughly as a four-element system based on the

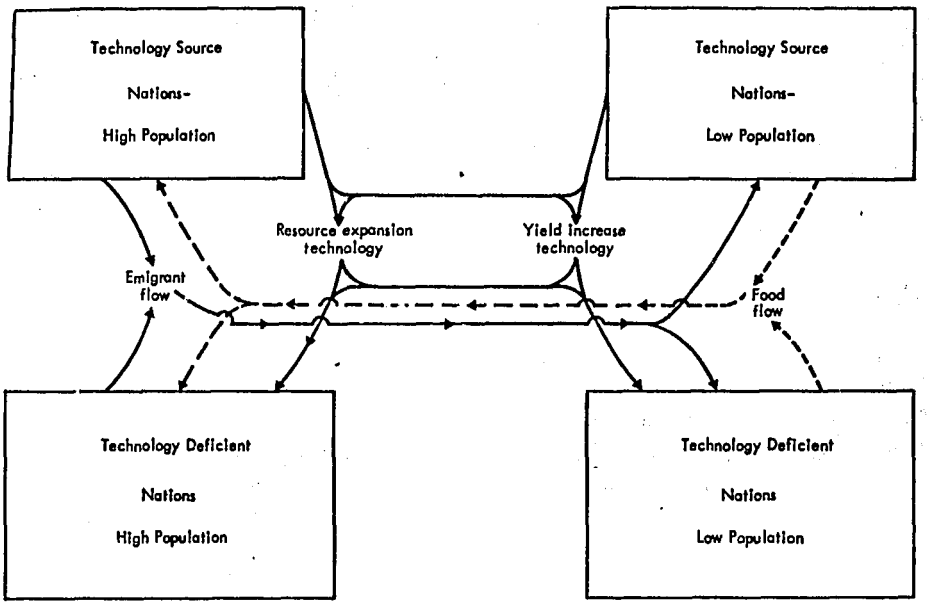


Figure 3. A sketch model of the world food production and consumption system.

types of countries identified above (Figure 3). The modeling of such a system would seem to be valid because some degree of responsibility has been recognized on a world-wide basis for the nutrition of all people. An accepted objective for the "system" is the production and distribution to each person in the world of enough food to permit a 2,700-calorie or greater daily intake, with an adequate share of the calories in protein form and adequate vitamin and mineral content.[5]

To simplify discussion of the model we shall assume that the technology-source countries of both low population-resource ratio and high population-resource ratio will provide sufficient food for their populations for an indefinite period in the future, either through domestic production or through foreign trade.

Achieving a minimally adequate diet for everyone may be viewed roughly as a communications problem. The food-producing resources of the technology-deficient countries, with few exceptions, give yields far below standards set in the technology-source areas, and most of them lack adequate technical organizations to increase that productivity. Achieving food adequacy for every consumer is a matter of increasing the flow in four channels: (1) a flow of yield-improvement technology from the technology-source areas to the technology-deficient areas; (2) a flow of resource-expansion technology (cultivated-land addition and the like) from the technology-source areas to the technology-deficient areas with low population-resource ratios; (3) an increase in the flow of food from both of the low population-resource areas to the technologically deficient high population-resource regions; and finally (4) an in-

[5] The exact amount of caloric intake, even national averages, may vary somewhat according to climatic, physiological, and possibly other conditions. The minimum needed for health also is subject to some professional dispute. The 2,700-calorie intake may be slightly above the minimum adequate for health, but it can not be counted as a diet with much excess food in it.

crease in the migrant flow from the technology-deficient areas of high population-resource ratios to those of low ratios.

It is generally agreed that by far the most hopeful direction for increasing food production is to improve agricultural yields. The heart of yield improvement, in turn, is to raise the output of cultivated cereals, other grasses, and other plants.

The productivity of agricultural plants can be influenced basically in four ways: (1) manipulation of the genetic character of the plant, as in hybrid corn; (2) protection of the plant against diseases and pests; (3) improvement of water supplied to the plant, by manipulating natural soil moisture sources and by providing exotic supplies; and (4) addition of mineral nutrients to the soil.

For all of these, technical knowledge exists that can effect dramatic increases in the output of every major food crop in every technology-deficient country. For example, the yield of rice per acre in India in 1963 was only about 27 per cent that of Japan.[6] Furthermore, the rice output of India in the years 1960–1963 was only about 5 per cent greater than in the years 1936–1939. The yield trend for all grains in India is only slowly upward. Thus far, Indian yields are a long distance from the "yield takeoff" point shown in the agricultural history of the technologically advanced countries[7] (Figure 4). It is one of a number of ironies in the present-day world that the agricultural productivity of the technology-source areas is increasing more rapidly than that of some of the more populous technology-deficient areas. The "yield gap" between the developed and developing countries has been steadily widening.[8]

The technology flow from the source areas to the deficient areas thus must be termed generally disappointing in spite of sincere, consistent, and occasionally very effective efforts on the part of technologically advanced nations like the United States. In a way it has been remarkable, considering the sheer mass of the problem of improving the lot of two billion people, that even more serious deficiencies have not appeared. But the total flow of yield-improvement technology in the present system is still slow.

The reasons yield-improvement technology has moved slowly into the technology-deficient countries are found in conditions within these countries. Although every technical innovation involves an adaptation to national, regional, or local culture, the adaptations in agriculture are particularly difficult because of the enormous number of entrepreneurs (farmers) who must be reached in order to transfer the new techniques, and the great variety of local, cultural, and natural conditions in which they live. For the technology-deficient countries as a whole there are literally hundreds of millions of farmers.[9]

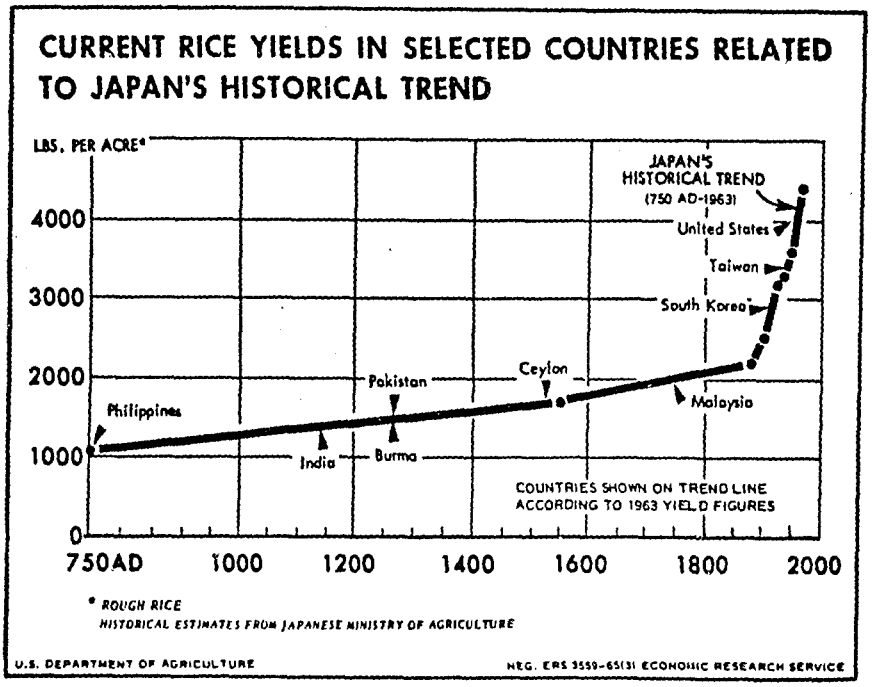
The problem of the large number of farmers in the developing countries is compounded by the level of literacy. An illiterate farmer is more difficult to reach and more limited in response than the literate man. About 1960 the level of literacy in India, for example, was only about 24 per cent, for Pakistan it was 15 per cent, and for some African

[6] 303 kilograms as compared with 1450 kilograms (Lester R. Brown, *Increasing World Food Output,* Foreign Agricultural Economic Report No. 25, U.S. Department of Agriculture [Washington, D.C.: U.S. Government Printing Office, 1954], pp. 126, 128).

[7] *Ibid.,* pp. 78, 81, 126.

[8] *Ibid.,* p. 114.

[9] The United States, by comparison, has only a few million.



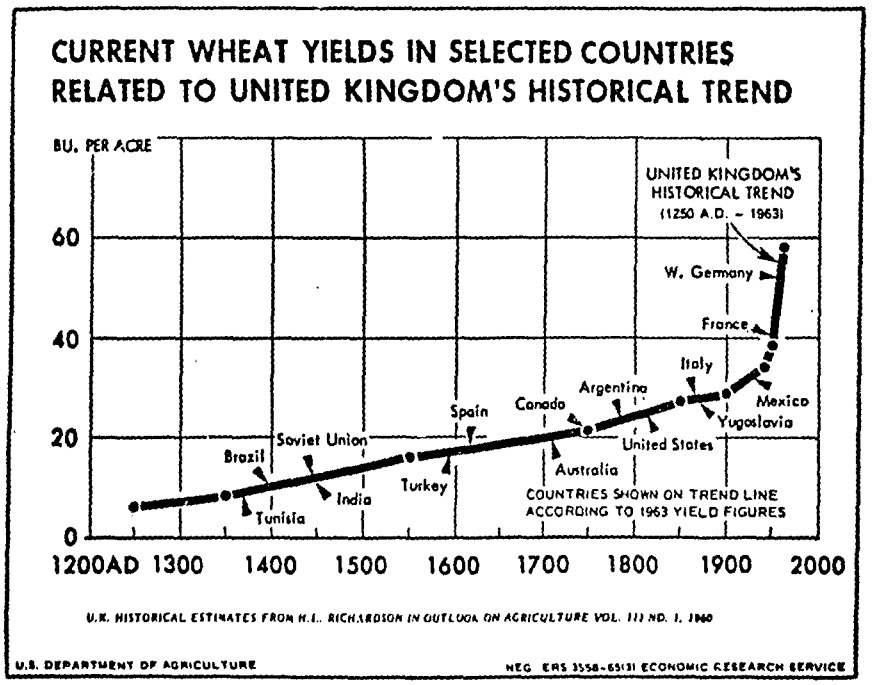


Figure 4. Two examples of "yield takeoff" curves (Brown, *op. cit.*, pp. 78, 81).

countries it was even lower.[10] Literacy and at least some elementary education may be considered important prerequisites to any notable change in agricultural productive capacity. If we can estimate the time when the farm population of a country is more than two-thirds literate, we also have an estimate of the first date when important changes in agricultural productivity will be favored.

Other important determinants of the flow of yield-improvement technology in any country are production motivation for farmers, availability of capital for land improvements and equipment, and supply sources for equipment and fertilizers priced within the farmers' means. There is little point in introducing the farmer to ways of improving his production if he does not own his land or share in its ownership, or if he cannot obtain goods in return for surplus production. This, of course, is a many-faceted factor that runs from landownership reform to the efficiency of the country's economic distribution system. Like literacy and education it has universal applicability.

Fortunately, two of the important ways of increasing food production—improvement in seed and plant stock, and protection of plants against diseases and pests—require relatively little capital.[11] On the other hand, capital requirements are heavier for food-supply increases through irrigation and other land improvement and for the provision of equipment and fertilizers. The most important single opportunity for increasing food production is through added fertilization, although it is most effective when added to improved plant stock. Parker and Nelson estimate that the food supply for one additional person can be provided through a capital investment of about four dollars in fertilizer plant.[12] This is not large in American terms, but considered in the light of population increases of billions over the next few decades it is a gigantic task in capital formation for countries where annual per capita incomes are $100 or less.

We might summarize the outlook for yield improvement in the technology-deficient countries in this manner: (1) The technology exists for vast improvements in the agricultural production of the technology-deficient countries; (2) there are few obstacles, if any, to the export of needed technology from the technology-source areas; and (3) the main obstacles to flow of technical improvements to the farmers of the technology-deficient areas lie within those countries. A higher level of literacy, economic systems that give farmers incentives to produce, and adequate capital formation appear to be keys to the situation.

DEVELOPMENT OF ADDITIONAL FOOD-PRODUCING RESOURCES

The second important general means of increasing food production is to expand the food-producing resources of the world. This may occur through additions to cultivated land and pasture, through extension of marine and other aquatic cultivation, and through the development of synthetic plant environments (algae or other hydroponic cultivation) or of "chemical" foods. Of these, there is space to discuss only extension of the land area under cultivation.

[10] Brown, *op. cit.*, p. 36; *Changes in Agriculture in 26 Developing Nations, op. cit.*, p. 15.

[11] F. W. Parker and L. B. Nelson, "More Fertilizers for More Food," *Symposium on Prospects of the World Food Supply*, 103rd Annual Meeting of National Academy of Sciences, Washington, D.C., April 25, 1966, p. 5.

[12] *Ibid.*, p. 3.

There is little land left for the expansion of cultivation in all of the regions with a high ratio of population to resources, including both the technology-source and the technology-deficient countries. Indeed, a large proportion of the world's highest-quality agricultural lands adapted to the most productive farming is now in use. Nevertheless, important extensions of the cultivated land area are still possible in the United States, in Australia, in Canada, and in middle-latitude South America, through cereal production and other techniques of Western middle-latitude agriculture. Whether or not these lands are to be used will depend on the organization of the world's economy and political structure for the purpose of making the lands useful, through either foreign trade or migration.

There are other lands that might be made available for cultivation in middle- and low-latitude desert regions throughout the world, as adequate water supplies are discovered, developed, and applied to the land. At present they are limited by the extremely small water supply that may be expected for any of the desert and semiarid regions. Even an oasis like that of Egypt (population about 25 million) is modest in comparison with world totals of population.

The remaining land types within which potential extensions of cultivation may be considered are the podsolized soils of Canada and the Soviet Union, and the rain forest and savanna (wet-and-dry) environments of South America, Africa, Indonesia, and the southeast Asian peninsula. All suffer from low natural soil fertility, except in alluvial ribbons or pockets, where there are often drainage problems. The northern regions also suffer from a short growing season. Surveys and agronomic experimentation are needed to determine which lands are likely to be usable economically under known technology, and the capital demands for development appear huge. With some local exceptions, like the development of the Mekong Valley in Laos, Cambodia, and Vietnam, the best hopes for expanding production to meet the domestic needs of the technology-deficient low-population countries lie more immediately in improved yields than in land-use extensions. This opinion is corroborated by the recent experience of Mexico, which quadrupled its wheat yields with the use of the phenomenal new dwarf wheats between 1943 and 1963.[13]

The possibilities for extension of cultivation may be summarized thus: (1) Middle-latitude technology-source low-population areas—some tens of millions of acres are available in the near future if either migration or world trade can be so organized as to stimulate their use. Under present world trade and migration outlooks, however, few of these lands appear scheduled for use within this century. (2) Desert and semiarid areas of the middle latitudes and tropics —modest land extensions will be possible in the near future, depending on the availability of capital. The technology for development exists and is easily exportable, and new techniques for discovery and assessment of water supplies have materially expanded the prospect of development, but in world terms the potential additions to cultivated areas are very modest. (3) The lands of the podsolized areas of the North, and the rain forest and savanna lands of the tropics—except for some alluvial oases, these must be generally regarded as longer-range possibilities for expansion and cultivation in any great amount, probably beyond the turn of the century. A vast task of local ex-

[13] Ignacio Narvaez and Norman E. Borlaug, "Accelerated Wheat Improvement in West Pakistan, and the Resolution of Agriculture," Office of the Secretary of Agriculture, West Pakistan, Lahore, 1966, p. 20.

ploration and of agronomic experimentation appears to be prerequisite if expensive failures and dislocations are to be avoided, particularly in tropical areas. Among the interesting aspects of developing the tropics is application of technology to extracting leaf protein.[14]

TECHNOLOGY AND FOOD-PRODUCING RESOURCES: THE NEXT FIFTY YEARS

Those who seek exact projections of the capacity of resources to produce food to match the expanding population of the world in the future must inevitably be disappointed in the state of our knowledge. In many ways our existing data are filled with unknowns and imponderables. Furthermore, the very nature of technology, dependent as it is upon unforeseeable events in science, makes it one of the largest imponderables of all. The preceding discussion has deliberately eschewed an extensive presentation of statistical data. Can we then give any helpful answer to the first of the two general questions posed at the beginning of this chapter? Can technology alleviate problems of population pressure existing in several regions of the world in the near future?

Among the few relatively firm quantitative data we have are those on comparative yields of major food-producing crops throughout the world. The differences between technology-source and technology-deficient countries and the past rates of increase in yield in the technology-source areas suggest that a tripling or possibly a larger multiple increase of world food production from yield increases alone is not an impossible goal.

In 1962 the range between the highest and the lowest national average yields (major producing countries) was 8 to 1 for wheat, 6 to 1 for corn, and 4 to 1 for rice.[15] We know that the average yields of the leading countries are much below the yields obtained by the most expert farmers or the most progressive farming communities within the same nations. We know also that some developing countries have achieved striking increases in food production since the end of the Second World War; Mexico, Yugoslavia, the Sudan, Taiwan, and Thailand are examples. Theoretically, then, it should be possible to produce food for a sevenfold increase in world population upon the basis of improved production techniques.

But the *rate* of increase is probably more important than the range of total increase possible. Can technology in this instance keep up with the present 2 per cent per year rate of population increase? Superficially the experience of the past decade suggests that technology can keep up with the rate of increase of population. However, food production increases have not been in the same places as the greater part of the population increases. The technology-source areas gained in per capita production during the past decade, whereas many of the technology-deficient countries, particularly in the Far East and Latin America, now have a lower per capita food production than before the Second World War.[16] The present trend is to place heavier and heavier dependence on the technology-source low-density countries for the food supplies of the high-population technology-deficient areas. The deepening food gap of the technology-deficient areas suggests that the rate of transfer of technology is not rapid enough.

It is instructive to look at the result

[14] N. W. Pirie, "Leaf Protein as Human Food," *Science*, 152 (1966), pp. 1701–1705.

[15] Brown, *op. cit.*, p. 102.

[16] *The State of Food and Agriculture, 1965 (Review of the Second Postwar Decade)* (Rome: Food and Agricultural Organization, United Nations, 1965), p. 7.

of the only case history in agricultural development that seems a valid analogue for the technology-deficient countries. Since about 1880, soon after its modernization commenced, Japan has managed to maintain an increase in yield per unit area between 1.0 and 1.5 per cent per year. As will be readily noticed, this is below the 2 per cent annual population increase of the world, and far below the 3 per cent annual population increase of some of the technology-deficient countries. Can any of the latter countries be expected to improve the Japanese record of yield increases by 30 to 100 per cent? Among countries of this type the best record thus far has been that of Taiwan, which averaged 2.9 per cent gain per year in its crop yields between 1948 and 1963.[17] On the other hand, India and Pakistan averaged less than 1.0 per cent. Interestingly, the literacy rate in Taiwan is 57 per cent, and that in Pakistan and India 20–24 per cent.[18]

In candor it must be said that the outlook for yield increases of this order seems dim. Japan had achieved a 95 per cent literacy as early as the year 1900, and rapidly developed a domestic industrial capacity in response to opportunities in world trade. Furthermore, the tight cultural organization of the nation operated as a favorable institutional factor, promoting capital formation, among other things. There is no country among the high-density technology-deficient group today in which all of these conditions that favored Japan are to be found, and some important countries have none of them.

We can only conclude that neither the record of Japan since 1880 nor the record of the technology-deficient countries during the last ten years should give us any high degree of optimism about organizing the flow of technology to support a yield increase of 2 per cent per year or greater in the most important technology-deficient high-population countries. Until formidable problems of raising the level of literacy have been surmounted, until capital formation is much increased in comparison with the present, until many institutional changes have been made, or until rates of population natural increases have declined, the flow of technology to increase yields is not as much favored as population growth.

An interesting test case is pending in the proposed wheat improvement program in Pakistan. It was hoped in 1966 that the introduction of the Mexican dwarf wheats and increased fertilization could make West Pakistan self-sufficient in this important food crop by 1970.[19] Such a dramatic change in the flow of technology, if achieved, will indicate that the literacy barrier has been successfully by-passed for the time being. However, other extraordinary alterations of factors influencing technology flow also seem to be required before the capacity of the technology-deficient nations to increase their production can be the principal stabilizing element in the world food supply.

NONFOOD RESOURCES

Within the space permitted in this article, food-producing resources were chosen for comment because of their obvious critical importance in the future history of the world. No other single natural resource or set of resources has the same critical significance. The distinction between the technology-source and the technology-deficient lands also applies to the use of other natural resources. However, there is a basic difference for nonfood resources as com-

[17] *Changes in Agriculture in 26 Developing Nations, op. cit.*, p. 15.

[18] *Idem.*

[19] Narvaez and Borlaug, *op. cit.*

pared with agriculture. The outlook for the flow of new technology from the technology-source areas to the technology-deficient areas is more favorable for nonfood resources than for food-producing resources. The more concentrated nature of entrepreneurial organization for mineral and forestry production facilitates the technology exchange. In part for this reason, the capacity to export forestry and mineral products is increasing more rapidly in the technology-deficient countries than it is in the technology-source lands.

On the world-wide basis we should not anticipate any shortages in production from the nonfood resources that cannot be counteracted within a reasonable time by technology. Regional and local deficiencies of water supply in the deserts and drier parts of semiarid regions must be excepted from this generalization. Techniques of recycling, substitution, and other devices for manipulating the flow and utilization of materials efficiently to match demand with supply, now seem to have a sound scientific backing. We can expect them to meet the challenges presented to them by a severalfold increase in world population. It is even possible that present nonfood resources will be able to supplement the present world sources of food output.

We now have completed a report on the first of two questions posed at the beginning of this article, even though it may not be an answer. The report was made in terms of a projection of standards of living prevailing in the world today, or modest increases thereof. Even under this assumption we have suggested that the outlook for technological improvement in food production at the same rate as the present rates of population increase is uncertain. If rates of population increase were nearer 1.0 or even 1.5 per cent rather than 2 per cent or more, the likelihood of a world food crisis within this century would be much lessened.

OUTLOOK FOR THE LONGER-RANGE FUTURE

It is obvious that the world's population cannot go on increasing indefinitely even if the twentieth-century crisis is taken care of. The capacity of resources (including mere space) to support people must eventually come to an end. This is more than an academic question. Projecting the present 2 per cent rate of population increase could result in sixteen hundred billion people on the earth's surface at the end of a little more than two and one half centuries. This would be more than twelve thousand for every square kilometer of land surface on the nonpolar continents, a density greater than the central part of most Western cities. We may doubt that twenty square meters of the earth's surface would be enough to maintain the psychological health of an individual, even if there were adequate nourishment for him.[20] Thus, at that or some earlier point, the world would be faced with a definite deterioration in the level of living available to its inhabitants.

Yet, even today the tendency of the world's people is toward higher living levels for each individual wherever that is possible, and there can be little doubt that the much discussed "revolution of rising expectations" is touching a majority of the world's people. If the habits of past economically favored members of the human race are any clue, levels of living representing incomes many times those now available would be eagerly sought as soon as they were in the realm of reality. It is then even more obvious that resources cannot indefinitely support increases in levels of

[20] E. A. Ackerman, "Population and Natural Resources—Moderator's Statement," *Second United Nations World Population Conference*, Section B-10, Belgrade, September 1965.

living of continually increasing numbers of people. The point at which the limit is approached ultimately, or at any given time, depends on the objective. During the last ten years, part of the world, almost entirely within the technology-source areas, has opted for increased levels of living. The other, and by far the larger part, the technology-deficient areas, has opted by force of circumstances for large numbers of people.

We conclude that although technology promises ultimate support of a world population several times that of today, the present rate of improvement in the flow of technology to the deficient areas must be greatly accelerated if critical problems of food supply are to be surmounted during this generation. We conclude also that resources, even in the hands of the most ingenious technology conceivable, have limits over the long term in their capacity to support people in increasing numbers and at high levels of living. Both the shorter-run situation and that of the longer term therefore have important elements in common. Action appropriate to the alleviation of shorter-run problems will also be compatible with long-range interests.

The capacity of resources and technology to support the world's people and improve their level of living now seems to depend significantly upon a number of ethical and political decisions, which leaders of political and social thought will do well to consider. Among them are:

Is a "natalist" doctrine ethically preferable to the "good life" for a nation or for a society?

Is the present commitment of technology-source nations to increase the flow of technology to the deficient nations deep enough?

How large a differential in level of living between nations is ethically and politically tolerable? A direct corollary question is: What proportion of investment funds available in the advanced nations should be dedicated to increasing the technology flow to the deficient areas?

How far is it the responsibility of surplus producers of food to support food export to hunger regions? How far is the market place the proper arbiter for world trade in food to meet minimum requirements of deficient areas? What *are* per capita minimum requirements?

How long are institutional obstacles to technologic change, like resistance to land reform, to be tolerated in deficient areas?

It is the answers to questions like these that will determine the future adequacy of technology and resources just as much as the progress of science and engineering.

Effects of Population Growth on the Economic Development of Developing Countries

By Richard A. Easterlin *

Abstract: The existing state of knowledge does not warrant any clear-cut generalization as to the effect of population growth on economic development in today's less developed areas. Some theoretical analyses argue that high population growth creates pressures on limited natural resources, reduces private and public capital formation, and diverts additions to capital resources to maintaining rather than increasing the stock of capital per worker. Others point to positive effects such as economies of scale and specialization, the possible spur to favorable motivation caused by increased dependency, and the more favorable attitudes, capacities, and motivations of younger populations compared with older ones. The actual evidence on the association between growth rates of population and per capita income does not point to any uniform conclusion, though the true relationship may be obscured in a simple two-variable comparison. None of this means that per capita income growth, currently and in the past, would have been the same if population growth rates had been markedly higher or lower. But it is possible that the effect of population growth on economic development has been exaggerated, or that no single generalization is justified for countries differing as widely in growth rates, densities, and income levels as do today's less developed areas. Clearly there is need for more intensive research on the actual experience of nations, currently and in the past.

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* The comments of John D. Durand and Thomas W. Merrick and the statistical assistance of Mr. Merrick are gratefully acknowledged. The research on which this paper is based was supported in part by a Ford Foundation Faculty Fellowship and National Science Foundation grant GS-942.

AS a distinctive era, modern economic development dates from the eighteenth century. It may be defined as a rapid and sustained rise in real output per head of the population and accompanying shifts in technological, economic, and demographic characteristics of a society. Together with the more recent concepts of social and political development, it forms the phenomenon which historians designate "modernization," embracing innovation in numerous aspects of individual behavior and social organization.

From the viewpoint of the economic system as a whole, the central feature of modern economic growth is an immense and continuous rise in the yield from human economic activity, that is, in the productivity of labor. The fundamental basis for such productivity growth has been technological innovation on a widespread and continuous scale. This has been accompanied by a marked rise in capital investment per worker and by a vast improvement in the "quality" of labor, that is, in such conditions as the nutrition, health, and education of the labor force.

The question of the effect of population growth on economic development thus centers on the issue of its productivity impact, either directly or through its concurrent influence on other productivity factors such as technological change, capital investment, health, and education. The majority view today, at least with regard to the developing nations, those under discussion here, is that rapid population growth impedes economic development. There is, however, some dissent from this position, for there are arguments on the other side. Nor is the evidence of history unequivocal. The present paper attempts to sketch the state of existing knowledge. It first summarizes briefly some of the leading theoretical views, pro and con, and then touches on the lessons of experience. To cover such a large subject in brief compass requires a highly selective treatment, and the over-all impression conveyed inevitably reflects the author's personal judgments.[1]

THEORY

Unfavorable effects

The most common reasoning, the Malthusian analysis, is rooted in the law of diminishing returns. One's first thought might be that the growth in total output is unaffected by the growth of population, in which case a rise in the rate of population growth would entail a corresponding reduction in the growth of output per head of the population. Such a simplified view obviously overlooks the fact that, with due allowance for the lag between birth and labor force entry, population growth implies growth in the labor supply and thus in productive capacity. It does not follow, however, that the growth in output would be proportionate to the increase in labor supply. Labor is but one of the inputs in the production process; only if the others were in-

[1] For a valuable and more extended recent discussion of many of the issues under consideration here, the reader is referred to two summary papers presented at the 1965 World Population Conference by Simon Kuznets: "Demographic Aspects of Modern Economic Growth: Background Paper," United Nations Doc. WPC/WP/389 (hereafter cited as "Background Paper"), and "Demographic Aspects of Modern Economic Growth: Moderator's Statement." A short summary of the pertinent session at the Conference is given by C. Gotchac in *Population*, Vol. 20, No. 6 (November–December 1965), pp. 1100–1106. An influential study, stressing the adverse effects of population growth, is Ansley J. Coale and Edgar M. Hoover, *Population Growth and Economic Development in Low-Income Countries* (Princeton, N.J.: Princeton University Press, 1961). For a valuable survey of the literature prior to the early 1950's, cf. United Nations, *The Determinants and Consequences of Population Trends* (New York: United Nations, 1953), chap. xiii (hereafter, "Determinants and Consequences").

creased in the same proportion as labor would it seem reasonable to expect output to grow correspondingly. If they are not, and if production methods remain unchanged, then one would expect output to grow less than proportionately to labor. To put it differently, if technology is assumed fixed, then population growth coupled with slower or zero growth in one or more other productive agents implies that there will be progressively less materials, equipment, and/or natural resources per worker, and, hence, that output per worker will tend to diminish.

In this reasoning, the fixity of natural resources, particularly land, is most often emphasized, and the inference is drawn that agricultural productivity, and thus food supplies per capita, will become progressively less. Of course, if the new workers provided by population growth simply increase the under- or unemployed and do not add to the actual labor input in the economy, then the productivity of employed labor will be unaffected. However, since the same total output must be shared among progressively greater numbers, output per head of the total population would still decline.

A recent variant of this analysis concerns itself with the relation, not of natural resources to population, but of reproducible capital—structures, equipment, and inventories—to population. In this analysis, the stock of reproducible capital is taken as normally growing, rather than constant, at a rate varying with the proportion of national income invested. If population and labor force were constant, then capital per worker and hence output per worker would normally grow over time. Population and labor force *growth* would imply a reduction in the increase of capital per worker—part of the addition to capital being required simply to keep the stock of capital per worker constant—and a consequent slowing down of the growth of output per worker. This analysis thus sees high population growth not necessarily as reducing the *level* of output per head but as lowering the rate of increase—the higher the rate of population increase, the greater the reduction in the growth of output per head. This line of reasoning is often used in discussions of development plans in less developed countries, where the proportion of national income invested is a strategic planning variable, often taken as determined by the plan. High population growth is seen as using up limited additions to capital resources on "unproductive" investment such as housing, as well as diverting government revenues that might have been used for the purpose of capital formation to "current" expenditures on items such as education and health.

Typically, of course, the proportion of national income invested depends not only on government capital formation but on private saving and investing decisions. The question naturally arises whether population growth may affect such decisions and thereby additionally influence the growth of capital, both total and per worker. The view most often advanced stresses the adverse consequences of high fertility on the age structure of the population and through this on savings rates. High fertility tends to produce a population with a relatively large proportion of persons below working age, and thus a situation where the number of dependents per worker is relatively high. This dependency burden creates pressures on the household to spend currently for consumption rather than save. The lower rate of private saving in turn keeps down private investment. Of course, high fertility, the initiating factor in this analysis, does not necessarily imply high total increase of the popu-

lation, since it may be coupled with either low or high mortality. The point is made, however, that a reduction of fertility (which would imply a reduction in population growth) would tend to raise savings and capital formation.

In sum, the present conditions of rapid population growth in less developed nations are seen as creating pressures on limited natural resources, as reducing private and public capital formation, and diverting additions to capital resources to merely maintaining rather than increasing the stock of capital per worker. In consequence, the growth of output per employed worker is retarded and/or under- and unemployment grow. Output per head of the total population grows at a reduced rate or actually declines in absolute level.[2]

Concern with such problems is manifest in the replies received from the governments of some developing countries to a United Nations inquiry on problems resulting from the interaction of economic development and population changes. An excerpt from Ceylon's reply provides an illustration:

> . . . unless there is some prospect of a slowing down in the rate of population growth and relative stability in at least the long run, it is difficult to envisage substantial benefits from planning and development. It is not so much the size of the population in an absolute sense; but rather the rate of increase that tends to frustrate attempts to step up the rate of investment and to increase income per head. Apart from the difficult process of cutting present levels of consumption, the source for increasing the volume of investment is the "ploughing back" of portions of future increases in incomes. This task is handicapped if these increases have instead to be devoted each year to sustaining a larger population.
>
> . . . Population Growth has obviously an impact on the magnitude of the economic, social and financial problems which we have to solve. For instance, the Government's current expenditure on food subsidies, education and health is now considerably higher than it would have been if our population had increased at a slower rate. The same applies to our import requirements and the scarcity of foreign exchange.[3]

Favorable effects

The most common argument for the positive impact of population growth on economic development is that relating to economies of scale and specialization. Within a productive establishment, there tends to be at any given time an optimum scale of operation, large in some industries, small in others. If the population is small, then the domestic market will not be able to support the most efficient level of operation in some industries. Extending one's view from an establishment in a given industry to the economy as a whole brings into view additional productivity gains associated with increased size. George Stigler has put it as follows:

> The large economy can practice specialization in innumerable ways not open to the small (closed) economy. The labor force can specialize in more sharply defined functions. . . . The business sector can have enterprises specializing in collecting oil prices, in repairing old machinery, in printing calendars, in advertising industrial equipment. The transport system

[2] The present discussion omits the theory of the "low-level equilibrium trap." Cf. Harvey Leibenstein, *Economic Backwardness and Economic Growth* (New York: John Wiley, 1957) and Richard R. Nelson, "A Theory of the Low-Level Equilibrium Trap in Underdeveloped Economies," *American Economic Review,* XLVI, 5 (December 1956), pp. 894–908. The assumptions of this analysis have been shown by Simon Kuznets to be highly unrealistic ("Background Paper," *op. cit.,* pp. 8–9).

[3] United Nations, "Inquiry Among Governments on Problems Resulting from the Interaction of Economic Development and Population Changes," United Nations Doc. E/3895/Rev. 1 (24 November 1964), pp. 19–20.

can be large enough to allow innumerable specialized forms of transport, such as pipelines, particular types of chemical containers, and the like.[4]

The view is prominent among economists that economies of size are significant in accounting for the high productivity of the United States economy.

It does not follow, however, that any given nation must have a population large enough to realize all or even most of such gains, if it is willing to participate in international trade. Through specialization in particular branches of economic activity and exchange with other nations, it is possible for a nation to achieve high levels of economic development. This is one important argument for customs unions and free trade areas among smaller less developed nations today. It also helps explain how among the richest nations today are some with small populations—Switzerland, Norway, Finland, Denmark, Israel, and New Zealand all have populations around five million or less. But to recognize this is not to gainsay that increasing population size within a given geographic area widens the alternatives available for productivity gains.

A second view makes the point that accelerated population growth in less developed areas today is a reflection of sweeping reductions in the death rate, and that the health advances that have made this possible have themselves expanded productive capacity and promoted attitudes favorable to economic development. Thus, a major survey of the world social situation points out:

Medical services and medical advances are often pace-makers of social change. Penicillin (and the whole range of antibiotics which followed its discovery) and DDT (and the other insecticides) have already transformed the lives of millions, not only by benefiting the individual directly, but also by increasing capacities and changing the attitudes of whole communities.[5]

A concrete example of the impact on economic productivity of the health advances which have at the same time raised population growth is offered later in the report:

. . . disease is a considerable factor in the incapacity of people to feed themselves. In Mymensingh, a district in East Pakistan, malaria control not only diminished infant mortality ("more mouths to feed") but increased the production of rice by 15 per cent—from the same acreage ("more and better hands to work") without any improvement in methods of cultivation or the variety of rice. This increase was due to the fact that whereas in the past three out of every five landworkers had been sick of the fever at the critical seasons of planting and harvesting, five out of five were available for the manual operations when the malaria had been controlled. In other areas, removal of a seasonal malaria has made it possible to grow a second crop. In still others, hundreds of thousands of acres of fertile land, which had been abandoned because of malaria, have been recovered for cultivation. People who are sick, ailing and incapacitated by disease lack the energy, initiative and enterprise needed to adopt new methods and improve their means of food production and so increase the yields from existing acreages.[6]

It should be noted that in this argument, the line of causation is not from

[4] Conference on Research in Income and Wealth, *Output, Input and Productivity Measurement,* Studies in Income and Wealth, Volume 25 (Princeton, N.J.: Princeton University Press, 1961), p. 61.

[5] United Nations, *Preliminary Report on the World Social Situation* (New York: United Nations, 1952), p. 22. Cf. also Rashi Fein, "Health Programs and Economic Development," in *The Economics of Health and Medical Care,* Proceedings of the Conference on the Economics of Health and Medical Care, May 10–12, 1962, sponsored by the Bureau of Public Health Economics and the Department of Economics of the University of Michigan (1964), pp. 271–282.

[6] *Ibid.,* p. 36.

high population growth to improved productivity. Rather, high population growth *and* improved productivity both arise from the same source—the reduction in mortality and associated improvement in health. It could be argued that if the mortality reduction were accompanied by a fertility reduction, so that population growth did not accelerate, then the productivity increase would be higher, for the positive effects of better "quality" workers would not be partially offset by the tendency toward diminishing returns produced by a greater quantity of workers. Thus, while this analysis does, on the one hand, point up a dubious aspect of the usual Malthusian argument as it bears on the present situation in less developed areas—the assumption that the quality of labor is unchanged—it does not deny that the stimulus to increased numbers as such is adverse.

Another argument, however, is based directly on accelerated population growth—or at least natural increase—as the cause. The key element in this analysis is the impact of the pressure of increased family size on individual motivation. It may be illustrated by comparison with the Malthusian approach. Assume in a population initially with a zero growth rate that a substantial cut occurs in the infant mortality rate owing, say, to new public health measures. The effect will be to raise dependency and, with a lag, the labor supply. The Malthusian view reasons that, assuming no change in production methods or other productive factors, the employment of this extra labor will reduce output per worker and consumption per head of the population.

At this point, a question might be asked whether human beings are likely to be totally oblivious to the implications of the growth in dependency for their consumption levels. Clearly the rise in dependency creates a threat both to the maintenance of existing consumption levels and to future improvements therein. Will individuals passively accept this consequence? Or may the threat posed by this "population pressure" provide the motivation for changes in behavior? At least two broad alternatives to passive acceptance come to mind. One, stressed in Kingsley Davis' presidential address to the Population Association of America, is a change in demographic behavior, a reduction in fertility or rise in outmigration. Looking back at western European experience over the past century and a half, Davis asserts:

> Although generally overlooked because of our preoccupation with the contraceptive issue, the fact is that every country in northwest Europe reacted to its persistent excess of births over deaths with virtually the entire range of possible responses. Regardless of nationality, language, and religion, each industrializing nation tended to postpone marriage, to increase celibacy, to resort to abortion, to practice contraception in some form, and to emigrate overseas.[7]

The stimulus to this, in Davis' view, is the decline in mortality and sustained natural increase to which it gave rise:

> Mortality decline impinged on the individual by enlarging his family. Unless something were done to offset this effect, it gave him, as a child, more siblings with whom to share whatever derived from his parents as well as more likelihood of reckoning with his parents for a longer period of life; and, as an adult, it gave him a more fragmented and more delayed share of the patrimony with which to get married and found his own family, while at the same time it saddled him, in founding that family, with the task of providing for more children—for rearing them, educating them, endowing their marriages, etc.,—in

[7] Kingsley Davis, "The Theory of Change and Response in Modern Demographic History," *Population Index,* Vol. 29, No. 4 (October 1963), pp. 350–351.

a manner assuring them a status no lower than his.[8]

The second alternative is a change in productive behavior, for example, the adoption of new production methods or increased saving to utilize more capital in production. To this, it may be objected that, at a given time, individuals are likely to be employing the best methods available to them. While this is a standard assumption of economic theory, a recent article by Harvey Leibenstein (not itself dealing with the question of population growth) points out that "the simple fact is that neither individuals nor firms work as hard, nor do they search for information as effectively, as they could."[9] Population pressure arising from mortality reduction may provide the spur to work harder, search out information, increase capital formation, and try new methods. Two recent exponents of this view have been Colin Clark and Ester Boserup.[10] The latter argues that what are typically regarded as more advanced agricultural techniques have actually required more labor per unit output, that is, the sacrifice of leisure. Historically, therefore, populations which have been aware of the availability of more advanced methods have often resisted their adoption until growth raised population density to a point of compelling the adoption of such methods in order to maintain consumption levels. With this shift may come better work habits and other changes facilitating sustained economic growth.

It is clear that this line of reasoning does not lead inexorably to the conclusion that economic development may be promoted by the pressure arising from accelerated population growth. The nature of the change in behavior, if any, clearly depends on many conditions—the education of those involved, the supply of information, and institutional conditions which may impede change along some lines and favor it in other directions. But it does raise a valid issue which is often neglected in discussions of this subject: the impact of population pressure on individual motivation. To the proponent of this view, government planners who view population growth as excessive are perhaps assuming to themselves undue responsibility and influence in the promotion of economic growth, and are failing to allow for the possible significance for the growth process of widespread individual initiative and enterprise, which population growth may spur.

A final positive effect turns on the age distribution of the population. To the extent that the age structure is skewed towards children, the numerical proportion of young to old is raised. If the young are viewed as more amenable to the adoption of new forms of behavior, then a young population, such as characterizes less developed areas, may be more favorable for economic development.[11] Younger persons are, of course, those who predominate in migration—a type of adjustment essential to economic growth. There is also some evidence that young persons may be more likely to be innovators.[12] An

[8] *Ibid.*, p. 352.

[9] Harvey Leibenstein, "Allocative Efficiency vs. 'X-Efficiency,'" *American Economic Review*, LVI, No. 3 (June 1966), p. 407.

[10] Ester Boserup, *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure* (Chicago: Aldine, 1965); and Colin Clark, "The First Stages of Economic Growth," United Nations Doc. WPC/WP/347, paper prepared for 1965 World Population Conference. For references to similar ideas in the earlier literature, cf. United Nations, *Determinants and Consequences . . ., op. cit.*, p. 230.

[11] Cf. Kuznets, "Background Paper . . .," *op. cit.*, p. 15.

[12] Everett M. Rogers, *Diffusion of Innovations* (New York: Free Press, 1962), pp. 172–174.

extension of this type of reasoning is involved in what Harvey Leibenstein has termed the "quality replacement rate." [12] Following a suggestion of Nathan Keyfitz, Leibenstein argues that if those entering the labor force are more favorably equipped than those leaving, in attitudes, capacities, motivation, and the like, then in a population whose age structure favors the young, the replacement of those with less favorable capacities by those with more will occur more rapidly. For example, if the educational system is steadily raising years of schooling, then the replacement of less by better educated persons in the work force will occur more rapidly if the age distribution is characterized by a higher porportion of young to old. This effect is not necessarily connected with high population growth rates, for a "young" age distribution may occur in connection with low population growth rates if both fertility and mortality are high. Most less developed nations today have relatively young populations (and thus the above positive effect is applicable) though they differ substantially in population growth rates. Leibenstein goes on to point out, however, that if population growth is high, the strain thereby created on a limited government budget for educational purposes may compel a sacrifice of quality for quantity in the education of the young, and a consequent offset to the replacement effect.

THE RECORD

Although the theoretical possibilities include both favorable and unfavorable effects, it is possible that one or a group of factors on either the positive or negative side may be so overwhelming in the size of its effect that it dominates actual experience. The history of the past two centuries embraces countries exhibiting a variety of population growth patterns both in time and space. Unfortunately, relatively little has been done to analyze systematically the implications of these for economic development. However, it is at least possible to ask, to the extent data are available, whether variations in population growth rates show any consistent relation to growth of product per capita. This question is no more than a start, for it fails to allow for variations among nations or through time in other growth-affecting factors which may obscure the actual relationship between population and economic growth. However, if the effect of population growth is very strong relative to these other factors, then it might be expected to show up even in such a simple two-variable comparison.

For the less developed countries of the world, reliable population estimates prior to the twentieth century are generally not available. Durand's recent examination of the available evidence since 1750 suggests that a discernible rise in growth rates did occur, though it was highly uneven in time and space.[14] It is fairly clear, however, that in this century, and particularly since around 1940, growth has been noticeably greater than in the past and generally accelerating. Unfortunately, estimates of per capita income even for this century are generally not available, except for very recent years, and experience has shown that short periods are not necessarily reliable indicators of secular tendencies. For what they are worth, the data for the period since 1957–1958, when population growth rates in most of these countries are among the high-

[13] "The Impact of Population Growth on 'Noneconomic' Determinants of Economic Growth," United Nations Doc. WPC/WP/95, paper prepared for the 1965 World Population Conference.

[14] John D. Durand, "World Population Estimates, 1750–2000," United Nations Doc. WPC/WP/289, paper prepared for 1965 World Population Conference.

TABLE—FREQUENCY DISTRIBUTION OF DEVELOPING NATIONS BY GROWTH RATE OF REAL PER CAPITA INCOME CROSS-CLASSIFIED BY GROWTH RATE OF POPULATION, 1957–1958 TO 1963–1964

RATE OF POPULATION GROWTH (PER CENT PER YEAR)	RATE OF GROWTH OF REAL PER CAPITA INCOME (PER CENT PER YEAR)							
	Total	Less than Zero	0 to 0.9	1.0 to 1.9	2.0 to 2.9	3.0 to 3.9	4.0 to 4.9	5.0 and Over
Total	*37*	*3*	*4*	*12*	*12*	*2*	*2*	*2*
3.5 and over	2	1	0	0	0	0	1	0
3.0–3.4	10	0	2	3	4	0	1	0
2.5–2.9	11	1	2	5	1	1	0	1
2.0–2.4	8	0	0	3	5	0	0	0
1.5–1.9	4	1	0	0	2	1	0	0
Less than 1.5	2	0	0	1	0	0	0	1

Notes: The countries included are non-Communist ones in Africa, Asia, and Latin America (except for Israel, Japan, and the Union of South Africa) with populations of around two million or more, for which data were available. In a few cases data for one of the two variables were not available for the specified period, and the nearest overlapping period was used.

Sources: Per capita income: A.I.D. Statistics and Reports Division, "Estimated Annual Growth Rates of Developed and Less Developed Countries" (#R.C. W-138, Mimeo.). Population: United Nations, *1964 Demographic Yearbook* (New York: United Nations, 1965).

est ever experienced, show that per capita income has generally increased (see table above). Moreover, if India, where long-term estimates are available, is representative, it is likely that in a number of cases these rates of economic growth are noticeably higher than earlier in this century.[15] Thus, accelerating population growth in recent years has not generally precluded positive per capita income growth, and has perhaps even been accompanied by accelerated income growth.

What of the now-developed nations? It is, perhaps, of some interest to look back into their history, when they were closer to the situation of today's less developed areas. The evidence is not as complete as one might wish, but it appears correct to say that virtually every one of these nations (other than those undergoing new settlement) went through a phase in which the population growth rate was noticeably above both prior and present levels, as mortality declined while fertility remained high.[16] The timing of this period in relation to the trend in the growth rate of per capita income cannot at present be firmly established, but it seems to have come early in, and perhaps in some cases before, the period of modern economic development, as economic historians would commonly date it.

To return to the data for today's less developed nations, is there evidence of a consistent relation between growth rates of population and of per capita income? That is, even if per capita income growth is in most cases positive, do those nations with low growth of per capita income usually exhibit high population growth and vice versa? The table above summarizes the data for thirty-

[15] M. Mukherjee, "A Preliminary Study of the Growth of National Income in India, 1857–1957," in International Association for Research in Income and Wealth, *Asian Studies in Income and Wealth* (New York: Asia Publishing House, 1965), pp. 71–103.

[16] D. V. Glass and D. E. C. Eversley (eds.), *Population in History* (Chicago: Aldine, 1965), D. V. Glass and E. Grebenik, "World Population, 1800–1950," in H. J. Habakkuk and M. Postan (eds.), *The Cambridge Economic History of Europe*, Vol. VI: *The Industrial Revolutions and After: Incomes, Population and Technological Change*, Part I (Cambridge: Cambridge University Press, 1965), pp. 56–138.

seven less developed countries, those with populations under two million having been omitted. It is clear from the table that there is little evidence of any significant association, positive or negative, between the income and population growth rates. A similar comparison by Simon Kuznets for eleven now-developed countries for which data were available for about a half-century prior to World War I yielded the same conclusion.[17] Of course, in the comparison for the current period, if the present experience of the now-developed nations were added, one would find that there was some indication that countries with higher growth rates of per capita income tended to have lower population growth rates. But if the less developed nations were added to the pre-World War I comparison, the reverse conclusion would obtain—those with higher per capita income growth rates tended to have higher population growth rates.[18]

On the whole, then, simple empirical comparisons between economic and population growth rates are inconclusive. Cases of high per capita income growth are associated with both high and low population growth, and the same is true for cases of low per capita income growth. None of this means that per capita income growth would have been the same if population growth rates had been markedly higher or lower. But the effect of population growth, whether positive or negative, is not so great relative to other growth determinants as to stand out in a simple comparison. This cautions against preoccupation with the effect of population growth on economic development to the exclusion of other determinants. At a minimum, the evidence, as far as it has been touched on here, suggests that in the past two centuries accelerated population growth has not typically prevented growth in per capita income, let alone compelled a decline.

[17] Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations," Part I: "Levels and Variability of Rates of Growth," *Economic Development and Cultural Change*, Vol. V, No. 1 (October 1956), p. 30.

[18] Jean Bourgeois-Pichat, "Population Growth and Development," *International Conciliation*, No. 556 (January 1966), p. 15.

CONCLUDING OBSERVATIONS

The theories and evidence surveyed here do not, it seems, add up to any clear-cut generalization as to the effect of population growth on economic development in today's less developed areas. Indeed, it may well be that no single generalization is appropriate for countries differing as widely in growth rates, densities, and income levels as do these areas. Clearly there is need for more basic research on the actual experience of nations, currently and in the past.

It should be stressed that the basic conclusion is the unsatisfactory state of present scientific knowledge, no more than that. It would not be correct to infer from this that the present population situation in a number of less developed areas provides no cause for concern. It is a fact that in many areas, population growth rates have risen at a rate and to levels unprecedented in past experience. It is plausible that these large and abrupt changes may create such widespread pressures and needs as virtually to overwhelm both individual and collective capacities to cope with them. And it is a sobering fact that in some less developed areas, primarily in parts of Asia, there now exists a combination of higher population growth rates, higher population densities, and lower income levels than appears to have prevailed in any of the now-developed nations in their early phases of development. While it is possible that a high population growth rate may be one important stimulus to

abandoning traditional modes of behavior and spurring innovation, one may wonder how high the rate need go.

At the same time one must be wary of viewing the present population situation in less developed areas as an isolated occurrence in otherwise static societies, without any parallel whatsoever in historical experience. Along with the rapid mortality decline and consequent surge in population growth, drastic changes are occurring, too, in economic, political, and social institutions, and in educational systems.[19] Many less developed societies are currently exhibiting characteristics which, in broad outline, are like those which appeared in the early phases of modernization in Europe, its overseas descendants, and Japan. The current surge in population growth may thus be symptomatic of the further diffusion of modernization to today's less developed areas, of a social transformation which in the past has brought with it, in due course, modern economic growth.

Finally, one should note that recognition of the inadequate state of knowledge does not necessarily call into question the principal population-policy action usually advocated for less developed areas, namely, promotion of measures encouraging fertility reduction. Quite aside from the issue of effects on economic development, there is ample basis for advocating such programs. It is recognized that an increase in reliable information and widening of alternatives open to individuals in general contribute to greater welfare. The need for such measures in the area of family planning, where open discussion is rare, is manifest. There is, moreover, evidence that many parents in less developed areas have more children than they desire or consider ideal.[20] The present discussion implies only that policies for fertility reduction should stress voluntary decisions on the part of the individuals concerned rather than compulsion, and should be conceived in the context of a much wider program for social, economic, and political development, that is, of a program strengthening modernization generally. Indeed, it is only in such a context that these measures are likely to be successful.[21]

[19] A valuable survey of some of these developments is given in United Nations, *1963 Report on the World Social Situation* (New York: United Nations, 1963).

[20] Ronald Freedman, "Norms for Family Size in Underdeveloped Areas," *Proceedings of the Royal Society*, B, Volume 159 (1963), p. 222.

[21] Cf. Ronald Freedman, "The Transition from High to Low Fertility: Challenge to Demographers," *Population Index*, Vol. 31, No. 4 (October 1965), pp. 417–430.

Population Growth and Educational Development

By B. Alfred Liu

Abstract: Educational development of a country, as measured by its adult literacy rate and school enrollment ratio, is found to be associated with certain demographic characteristics. It is shown that those countries most advanced educationally tend to have lower rates of population growth; specifically they have low or moderate birth rates which are in falling trends since 1945. Countries least advanced educationally are observed to have higher rates of population growth; their birth rates, already high, are tending to rise further. Countries at intermediate levels of educational development also show intermediate characteristics of demographic growth. Practical consequences of these disparities are pointed out with respect to the proportion of a country's population in school-going ages and to the relative burden of public educational expenditure on the national economy. The example of India is cited as illustration. Some guidelines and targets for a country's educational development are suggested by the author.

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THE educational development of a country is conditioned by many historical, cultural, and socioeconomic factors. A factor of major importance is the rate of population growth, particularly the level and trend of the birth rate. In this paper we shall examine the rates of population growth, and specifically the recent levels and trends of the birth rate, for some seventy countries of the world, each with a population of five million or more, and discover what relationship, if any, exists between these rates and the present stage of educational development of each country.

As a measure of educational development we shall use, in combination: (1) an *adult literacy rate,* defined as the percentage of the population fifteen years old and over who can both read and write; and (2) a *school enrollment ratio,* defined as a ratio based on the number of pupils enrolled in primary and secondary schools compared to one hundred persons in the population aged five to nineteen years inclusive, adjusted for the normal duration of schooling in the particular country.[1]

As a measure of population growth we shall use, in combination: (1) an annual percentage rate of increase 1958–1963, published by the United Nations in the *Demographic Yearbook 1964;* and (2) an annual rate of natural increase, for 1964 or the latest year available, from the same source or from the United Nations *Compendium of Social Statistics: 1963.* Also from these sources we have taken the crude birth rates (number of live births per one thousand population), averaged for three periods: 1945–1949, 1955–1959, and 1960–1964 or the latest years available.

EDUCATIONALLY MOST ADVANCED COUNTRIES

On the basis of our educational indices we have selected the following seventeen countries, each with a population of five million or more, as relatively *most advanced* in educational development.[2]

Australia	Germany, East	Sweden
Austria	Germany, West	Switzerland
Belgium	Hungary	U.S.S.R.
Canada	Japan	United Kingdom
Czechoslovakia	Netherlands	United States
France	Poland	

All these countries have adult literacy rates of 95 per cent or higher and, with one or two exceptions, school enrollment ratios of 75 or higher. They are all situated in the northern, eastern and western parts of Europe, except Australia, Canada, Japan and the United States. Pertinent data on the educational and demographic situation in these countries are presented in Table 1.

EDUCATIONALLY LESS ADVANCED COUNTRIES

Another group of twenty-seven countries are classified as educationally *less advanced,* in comparison to the first group, but they meet our two minimum criteria for educational development: an adult literacy rate of 50 per cent or

[1] For explanations of these indices and their application to all countries of the world, see: United Nations Educational, Scientific and Cultural Organization (UNESCO), *World Illiteracy at Mid-Century* (Paris: UNESCO, 1957); and *Statistical Yearbook, 1964* (Paris: UNESCO, 1966).

[2] Other countries which may be classified as educationally most advanced, such as Denmark, Finland, Ireland, Israel, New Zealand, and Norway, are not included in this list because they have less than five million population.

more, and/or a school enrollment ratio not lower than 50.

Argentina	Cuba	Portugal
Brazil	Greece	Rumania
Bulgaria	Italy	South Africa
Burma	Korea, North	Spain
Ceylon	Korea, South	Thailand
Chile	Malaysia	Venezuela
China, Mainland	Mexico	Vietnam, North
China, Taiwan	Peru	Vietnam, South
Colombia	Philippines	Yugoslavia

One-fourth of these countries are situated in Asia; nearly one-third are in Latin America; the rest are found in southern and eastern Europe and one in Africa. Educational and demographic data relating to these countries are set out in Table 2.

EDUCATIONALLY LEAST ADVANCED COUNTRIES

Finally, twenty-four countries are classified as educationally *least advanced* because they have less than half of their adult population able to read and write and, with one marginal exception, less than half of their school-age population enrolled in school. They are found situated geographically, almost in equal numbers, in Africa and in Asia, with a large concentration in the Mediterranean or Middle East region.

Countries in this group are listed in Table 3, together with such data as are available concerning their educational and demographic development.

Afghanistan	Iran	Pakistan
Algeria	Iraq	Saudi Arabia
Cambodia	Kenya	Sudan
Congo (Leopoldville)	Madagascar	Tanzania
Ethiopia	Morocco	Turkey
Ghana	Mozambique	Uganda
India	Nepal	United Arab Republic
Indonesia	Nigeria	Yemen

We shall now examine some of the demographic factors associated with the different levels of educational development in these three groups of countries.

SIZE OF POPULATION

First, we might ask: Does the size of population, by itself, bear any relationship to the level of a country's educational development? The answer is definitely: No. Three of the most populous countries of the world, each with more than ninety million people, are found in the first group (Japan, Soviet Union, and United States). One such country (China, Mainland) is found in the second group; three others (India, Indonesia, Pakistan) are in the third group. Among 37 countries, each with a population between 10 and 90 million, 10 are in the first group, 17 in the second group, and 10 in the third group. Among 24 countries in the 5 to 10 million population size group, 4 are educationally most advanced; 9 are relatively less advanced; and 11 are in the least advanced category. Hence our first general observation:

(1) *The size of a country's population does not, by itself, show any direct re-*

TABLE 1—SOME EDUCATIONAL AND DEMOGRAPHIC INDICES FOR SEVENTEEN SELECTED COUNTRIES (EDUCATIONALLY MOST ADVANCED)

COUNTRY	ADULT LITERACY RATE: 1960 OR LATEST	SCHOOL ENROLLMENT RATIO: 1960	TOTAL POPULATION IN MILLIONS: 1960	ANNUAL % RATE OF INCREASE: 1958–1963	NATURAL RATE OF INCREASE PER 1,000: 1964 OR LATEST	BIRTH RATE PER 1,000 POPULATION:			TREND IN BIRTH RATE: 1945–1964	5–14 AGE GROUP AS % OF TOTAL POPULATION: 1960	EDUCATIONAL EXPENDITURE AS % OF NATIONAL INCOME: 1960 OR LATEST
						Average 1945–49	Average 1955–59	Average 1960–64			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Australia	98–99[a]	93	10.3	2.1	13	23	23	22	Remaining at moderate level	20	3.9
Austria	98–99[a]	68	7.1	0.2	5	17	17	19	Low level and rising	15	4.0
Belgium	97	101	9.2	0.5	5	17	17	17	Remaining at low level	15	6.2
Canada	97–98[a]	81	17.8	2.0	16	27	28	25	Remaining at moderate level	22	7.6
Czechoslovakia	97–98[a]	85	13.7	0.7	7	23	19	16	Falling to low level	19	6.5
France	96	88	45.5	1.3	7	20	18	18	Falling to low level	17	3.6
Germany, East	98–99[a]	78	16.2	−0.2	4	13	16	18	Low level and rising	17	6.0
Germany, West	98–99[a]	83	53.4	1.3	7	17	17	18	Remaining at low level	14	3.7
Hungary	97	79	10.0	0.4	3	20	18	14	Falling to low level	17	4.7
Japan	98	91	93.2	0.9	11	30	18	17	Falling to low level	22	7.2
Netherlands	98–99[a]	93	11.5	1.4	13	26	21	21	Moderate level and falling	20	6.3
Poland	95	93	29.7	1.3	11	28	27	20	Moderate level and falling	23	5.1
Sweden	98–99[a]	80	7.5	0.5	6	19	15	15	Low level and falling	15	5.7
Switzerland	98–99[a]	73	5.4	2.1	10	19	18	18	Remaining at low level	15	3.4
U.S.S.R.	98	78	214.4	1.7	14	[b]	[b]	23	Moderate; trend unknown	[b]	6.1
United Kingdom	98–99[a]	82	52.5	0.7	7	18	16	18	Remaining at low level	15	5.8
United States	98	102	180.7	1.6	12	23	25	22	Remaining at moderate level	20	6.8
Group median	*98*	*83*	*17.2*	*1.3*	*7*	*20*	*18*	*18*		*17*	*5.8*

Source: Educational data from UNESCO, *Statistical Yearbook, 1964* (Paris, 1966) and *World Illiteracy at Mid-Century* (Paris, 1957). Demographic data from United Nations, *Demographic Yearbook, 1961, 1964* (New York: United Nations, 1962, 1965) and *Compendium of Social Statistics: 1963* (New York: United Nations, 1963).

[a] Estimated. [b] Not available.

TABLE 2—SOME EDUCATIONAL AND DEMOGRAPHIC INDICES FOR TWENTY-SEVEN SELECTED COUNTRIES (EDUCATIONALLY LESS ADVANCED)

COUNTRY	ADULT LITERACY RATE: 1960 OR LATEST	SCHOOL ENROLLMENT RATIO: 1960	TOTAL POPULATION IN MILLIONS: 1960	ANNUAL % RATE OF INCREASE: 1958–1963	NATURAL RATE OF INCREASE PER 1,000: 1964 OR LATEST	BIRTH RATE PER 1,000 POPULATION:			TREND IN BIRTH RATE: 1945–1964	5–14 AGE GROUP AS % OF TOTAL POPULATION: 1960	EDUCATIONAL EXPENDITURE AS % OF NATIONAL INCOME: 1960 OR LATEST
						Average 1945–49	Average 1955–59	Average 1960–64			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Argentina	91	72	20.0	1.6	14	25	24	22	Moderate level and falling	20	3.5
Brazil	49	51	70.8	3.1	27–36[a]	43[a]	[b]	[b]	High level; trend unknown	26	2.2
Bulgaria	85	81	7.9	0.9	8	25	19	17	Falling to low level	18	4.7
Burma	55–60[a]	43	20.7	1.0	15[a]	[b]	50[a]	[b]	High level; trend unknown	21	2.5
Ceylon	68	74	9.9	2.5	27	38	37	35	Remaining at high level	25	5.9
Chile	84	74	7.3	2.3	22	36	36	35	Remaining at high level	24	3.2
China, Mainland	45–50[a]	58	646.5	2.3	23[a]	[b]	34[a]	[b]	High level; trend unknown	[b]	[b]
China, Taiwan	54	74	10.6	3.5	29	40	43	37	Remaining at high level	27	4.1
Colombia	62	50	14.1	2.2	26–32[a]	34	42	44	High level and rising	26	3.4
Cuba	78	72	6.8	1.8	17–25[a]	30	[b]	32	Remaining at high level	24	[b]
Greece	80	70	8.3	0.7	12	19	19	18	Remaining at low level	17	1.4
Italy	86	59	49.4	0.6	10	21	18	19	Falling to low level	16	6.3
Korea, North	[b]	[b]	8.3	2.2	23	41	39	[b]	Remaining at high level	[b]	[b]
Korea, South	71	64	24.7	2.8	28[a]	18	37	41[a]	Rising to high level	27	6.8
Malaysia	47	63	7.7	3.2	31	41	44	41	Remaining at high level	26	[b]
Mexico	65	53	35.0	3.2	35	44	46	46	Remaining at high level	28	3.0
Peru	61	55	10.9	2.7	24–35[a]	29	38	35	Rising to high level	27	4.9
Philippines	72	70	27.8	3.2	22	25	30	22	Moderate level and falling	28	3.6
Portugal	62	62	8.9	0.7	14	26	24	24	Remaining at moderate level	19	2.0
Rumania	89	60	18.4	0.8	7	25	23	17	Falling to low level	17	[b]
South Africa	40–45[a]	69	15.8	2.4	[b]	[b]	[b]	[b]	[b]	[b]	4.0
Spain	87	70	30.1	0.8	14	22	21	22	Remaining at moderate level	18	1.4
Thailand	68	58	26.3	3.0	22[a]	25	37	34	Rising to high level	29	2.9
Venezuela	66	79	7.5	3.4	30–40[a]	39	47	45	High level and rising	25	4.8
Vietnam, North	64	[b]	15.9	3.4	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Vietnam, South	[b]	47	14.1	3.4	17[a]	[b]	36	26	Falling to moderate level	[b]	1.8
Yugoslavia	76	75	18.5	1.1	11	28	25	22	Moderate level and falling	21	5.1
Group median	*68*	*64*	*15.8*	*2.3*	*22*	*28*	*36*	*32*		*24*	*3.5*

Source: See Table 1. [a] Estimated. [b] Not available.

TABLE 3—SOME EDUCATIONAL AND DEMOGRAPHIC INDICES FOR TWENTY-FOUR SELECTED COUNTRIES (EDUCATIONALLY LEAST ADVANCED)

COUNTRY	ADULT LITERACY RATE: 1960 OR LATEST	SCHOOL ENROLLMENT RATIO: 1960	TOTAL POPULATION IN MILLIONS: 1960	ANNUAL % RATE OF INCREASE: 1958–63	NATURAL RATE OF INCREASE PER 1,000: 1964 OR LATEST	BIRTH RATE PER 1,000 POPULATION:			TREND IN BIRTH RATE: 1945–1964	5–14 AGE GROUP AS % OF TOTAL POPULATION: 1960	EDUCATIONAL EXPENDITURE AS % OF NATIONAL INCOME: 1960 OR LATEST
						Average 1945–49	Average 1955–59	Average 1960–64			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Afghanistan	1–5[a]	5	13.8	2.8	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Algeria	8	26	11.0	2.2	23	41	37	39	Remaining at high level	25	3.0
Cambodia	31	41	5.0	[b]	22[a]	[b]	45[a]	41[a]	Remaining at high level	[b]	[b]
Congo (Leopoldville)	15	39	14.2	2.2	23[a]	[b]	38	43	High level and rising	23	4.4
Ethiopia	1–5[a]	4	20.0	1.7	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Ghana	20–25[a]	31	6.7	4.1	30	33	50	56	High level and rising	25	4.3
India	28	31	432.6	2.3	19	40[a]	[b]	40[a]	Remaining at high level	24	2.6
Indonesia	43	40	92.6	2.3	22[a]	[b]	[b]	43[a]	High level; trend unknown	[b]	[b]
Iran	13	30	20.2	2.4	25–28[a]	29	[b]	45–48[a]	Rising to high level	25	3.1
Iraq	15	50	7.1	1.6	10	6	12	21	Rising to moderate level	26	6.6
Kenya	20–25[a]	41	7.1	2.9	[b]	[b]	[b]	[b]	[b]	[b]	5.1
Madagascar	33	30	5.4	3.0	22	24	35	38	Rising to high level	[b]	[b]
Morocco	14	27	11.6	2.9	27	[b]	[b]	47[a]	High level; trend unknown	[b]	4.7
Mozambique	1–2[a]	26	6.5	1.7	[b]	47[a]	[b]	[b]	High level; trend unknown	[b]	[b]
Nepal	5	10	9.4	1.6	15[a]	[b]	[b]	45[a]	High level; trend unknown	23	[b]
Nigeria	11	30	35.1	5.7	[b]	[b]	49[a]	[b]	High level; trend unknown	[b]	2.1
Pakistan	19	26	92.7	2.1	26–30[a]	21	[b]	43–46[a]	Rising to high level	27	1.8
Saudi Arabia	1–5[a]	6	6.0	1.9	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Sudan	12	12	11.8	2.8	33[a]	[b]	52[a]	[b]	High level; trend unknown	[b]	5.6
Tanzania	5–10[a]	15	9.5	1.9	21–22[a]	44[a]	[b]	[b]	High level; trend unknown	[b]	4.5
Turkey	38	47	27.6	2.9	[b]	[b]	[b]	[b]	[b]	23	2.9
Uganda	25	31	6.7	2.5	22[a]	42[a]	[b]	[b]	High level; trend unknown	24	4.0
United Arab Republic	20	43	25.9	2.5	22	42	40	43	Remaining at high level	24	3.8
Yemen	1–5[a]	[c]	5.0	2.6	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Group median	*14.5*	*30*	*11.3*	*2.4*	*22*	[b]	[b]	[b]		*24*	*4.0*

Source: See Table 1. [a] Estimated. [b] Not available.

lationship to its level of educational development.

RATE OF POPULATION GROWTH

Next we address ourselves to the question: Is there any significant difference in the rates of population growth among countries at different levels of educational development? The answer to this question is a qualified yes. The rates of total population increase between 1958 and 1963, shown for our first group of countries, are all, with three exceptions, less than 2 per cent per year. Excluding the effects of external migration, the current rates of natural increase (excess of births over deaths within the country), for all but one of these countries, are less than fifteen per thousand population or an annual growth rate of about 1.5 per cent. The countries of this group show annual growth rates, based on natural increase, ranging from 1.6 per cent (Canada) down to 0.3 per cent (Hungary). The median growth rate for the group is 0.7 per cent based on natural increase in or close to 1964; or 1.3 per cent based on total population increase between 1958 and 1963 (see Table 1, columns 4 and 5).

For our second group of countries, the median rate of increase between 1958 and 1963 is 2.3 per cent. The median rate of natural increase currently is 2.2 per cent. The rates of natural increase range from 3.5 per cent (Mexico) down to about 0.7 per cent (Rumania). (See Table 2, columns 4 and 5.) Thus, it may be seen that half of the countries in our first group are growing in population at a rate equal to or less than the lowest rate shown for any country in the second group. Conversely, more than half of the countries in our second group are growing in population faster than the fastest-growing country in the first group. It may therefore be concluded that the countries educationally most advanced tend to have lower rates of population growth than countries in the educationally less advanced group.

Regarding our third group of countries, we are handicapped by the lack of adequate statistics for the calculation of population growth rates for many of the countries. From such data as are available, we find a median growth rate for this group almost identical to that for the second group: about 2.2 per cent. The range of rates shown, whether registered or estimated, goes from 3.3 per cent (Sudan) down to 1.0 per cent (Iraq). (See Table 3, columns 4 and 5.) Compared to the first group of countries, all but two of the rates shown for this group are higher than the highest rate reported for any country in the first group, while the lowest rate reported for any country in the third group is still higher than the rates for half of the countries in the first group. Unquestionably, the educationally most advanced countries do tend to have lower rates of population growth than countries in the least advanced group. However, no significant difference can be attributed to the population growth rates between the *less* advanced and the *least* advanced groups of countries. We may thus state our next two general observations:

(2) *Countries which are most advanced educationally tend to have lower rates of population growth than those which are relatively less advanced or least advanced in educational development.*

(3) *There is no evidence of any significant difference in the population growth rates between countries in the educationally less advanced and those in the least advanced groups.*

LEVELS OF BIRTH RATE

Natural increase of the population results from a combination of two demo-

graphic factors, the birth rate and the death rate, the first being normally in excess of the second. With the over-all death rate generally on the decline throughout the modern world, quite substantially in some instances, it is the level of the birth rate and its changes which will become the principal determinants of future population growth. We shall, therefore, attempt to answer another question: Are the birth rates of various countries a significant factor in the differentiation of countries according to their levels of educational development? Here we shall confine our attention to average birth rates published by the United Nations for three time periods: 1945–1949; 1955–1959; and 1960–1964 or for the latest years available (see columns 6 to 8 in Tables 1, 2 and 3). To simplify comparisons, we shall consider a crude birth rate of thirty or more per thousand as relatively high; between twenty and thirty as moderate; and any rate less than twenty as low. These are arbitrary limits chosen for convenience in this study, and do not imply any criteria of optimum birth rates for national development planning and other purposes. On this basis, our answer to the question stated above is a substantial yes.

Taking our first group of countries, those classified as most advanced in educational development, we find only one country (Japan) which may be considered at any time since 1945 as having a relatively high birth rate. About half of the other countries have had moderate birth rates, at least during part of the period in question. The other countries in the group have had consistently low birth rates throughout the postwar years. The average rates reported for the 1945–1949 period range from about thirty per thousand (Japan) to about thirteen (East Germany). The median rate for this group of countries, excluding the Soviet Union, for which data for those years are not available, stands at about twenty, just above our arbitrary borderline between moderate and low rates. For the period between 1955 and 1959, the highest average rate, about 28, is reported for Canada; the lowest, about 15, is reported for Sweden. The median rate for the group dropped to 18, definitely on the low side. For 1960 and later years, the median rate stands at 18 (see Table 1, columns 6 to 8).

Among our second group of countries, relatively less developed educationally, we find no less than sixteen countries—a clear majority—which can be classified as having high birth rates. Half of the countries starting with moderate rates for the 1945–1949 period have either moved up to the high category (Peru, Thailand), or moved down to the low category (Bulgaria, Italy, Rumania). Five countries have remained at the moderate level. Only one country in this group, Greece, has consistently reported low birth rates since the 1945–1949 period. The highest rate shown for any country in this group is an estimated rate of fifty for Burma, referring to the 1955–1959 period. The lowest rate shown is about 17 for Bulgaria and Rumania, referring to the period 1960–1964. The median rate for this group was about 28 for the 1945–1949 period, rising to about 36 for the 1955–1959 period, and dipping to about 32 for the latest years available (see Table 2, columns 6 to 8).

Finally, for the third group of countries (educationally least advanced), we are again handicapped by inadequate data on birth rates. From the spotty data available, it seems that practically all the countries, with the possible exception of one, have to be classified as high-birth-rate countries, according to our criteria. Pakistan reported only moderate birth rates for the period 1945–1949; Iran and Madagascar seem

to have moved up from moderate to high rates. Only one country, Iraq, has reported low-to-moderate rates of birth. Because of the grossly incomplete, and possibly misleading, data, we have not attempted to compute median rates for this group of countries (see Table 3, columns 6 to 8).

A comparison, even based on incomplete data, clearly shows a pattern which may be tentatively described as follows. Countries which are most advanced in education are characterized by low to moderate birth rates; those less advanced tend to have moderate to high birth rates; those least advanced have practically all high birth rates, reported or estimated at levels ranging from thirty up to fifty or more. We shall therefore state the following additional observations:

(4) *Countries which are educationally most advanced may be expected to have relatively low or moderate birth rates as compared to countries less advanced or least advanced in educational development.*

(5) *Countries which are educationally less advanced may be expected to have birth rates ranging from moderate to high levels when compared to countries which are relatively most advanced.*

(6) *Countries which are least advanced in educational development may be expected to have the highest birth rates when compared to other countries which are educationally more advanced.*

TRENDS IN CHANGING BIRTH RATES

Birth rates, however, are not static phenomena. For almost any country they may change, sometimes dramatically, from year to year and from one period to another. We shall therefore raise one more pertinent question: Is there any noticeable difference in the *trends* of changing birth rates, when countries are compared on the basis of their level of educational development? Our answer to this last question, based on the same data which we have examined above, is almost emphatically: Yes. In Tables 1, 2 and 3, we have summarized the trends, where discernible, of changes in the birth rates of individual countries, over a period extending approximately twenty years since the end of the Second World War. The following pattern emerges.

Of all countries which we have classified as educationally most advanced, leaving out the Soviet Union for which we do not have the pertinent data, almost half have registered declines in their birth rates since 1945. One country (Japan), starting with an average birth rate of about thirty in the early postwar period, has drastically reduced that rate to about seventeen. Five countries (Czechoslovakia, France, Hungary, Netherlands, Poland) registering moderate rates of twenty or more in the same earlier period have since reduced their rates below that level. One other country (Sweden) which had relatively low rates at the beginning of the postwar period has further declined to still lower levels. Of the other half, three countries (Australia, Canada, United States) have remained at moderate levels; three countries (Belgium, West Germany, United Kingdom) have stabilized around their relatively low levels. Only two countries (Austria, East Germany) have shown a rising trend from their postwar low levels, but their current rates are still low in comparison with most other countries (see Table 1, column 9).

Among those countries classified as less advanced in education, seven countries have shown a falling trend in birth rates, three of them (Bulgaria, Italy, Rumania) shifting from moderate to low levels. Ten countries have maintained their relative positions in their respective levels; while five have ap-

parently shown a rising trend (see Table 2, column 9).

In the group of countries which we have classified as educationally least advanced, *not one* has shown a trend of falling birth rates. Four countries (Algeria, Cambodia, India, United Arab Republic) have maintained their positions among the high-birth-rate countries. Six other countries have shown rising trends, one of which (Ghana) reporting in 1960 a rate of about 56, which possibly qualifies it as the country with the highest known birth rate among all the 68 countries included in our study (see Table 3, column 9).

We shall now state two more general observations from our study of the relationship between population growth and educational development:

(7) *Countries at more advanced levels of educational development are apt to be found with falling trends in their birth rates, even where these rates are already at a moderate or low level.*

(8) *Countries at the least advanced levels of educational development are more apt to be found with rising trends in their birth rates, even where these rates are already at a relatively high level.*

SOME PRACTICAL CONSEQUENCES

Let us see what are some of the practical consequences of population growth, particularly of high birth rates, on the level of educational development of a country. First, it is obvious that a country with a high birth rate and a rapidly growing population must have a higher proportion of its people in the younger ages, especially in the school-going ages. For our first group of countries, around the year 1960, the proportion of the total population in the age group 5 to 14 years inclusive ranges from 23 per cent in Poland to 14 per cent in East Germany. The median percentage for the group is about 17. For our second group of countries, these percentages range from 29 for Thailand to 16 for Italy. The median for this group is about 24 per cent. For those countries in the third group for which we have comparable data, the percentages run from 27 for Pakistan down to 23 for Congo (Leopoldville), with a median for 11 countries at about 24 per cent (see column 10 in Tables 1, 2 and 3). Comparing the three groups, we find that more than half of the countries in the second, and practically all countries in the third group for which we have available data have a higher proportion of their population in school-going ages than *all* the countries in the first group. It follows that the country with a higher proportion of its population in the school-going ages imposes a heavier educational burden on the rest of its people. It is reasonable to surmise that most of such countries find their educational development impeded largely as a result of their demographic situation.

One measure of a country's effort towards meeting its educational needs is furnished by its total public expenditure on education in relation to its national income. Data on this index, as available for each country around 1960, are shown in column 11 of Tables 1 to 3. For the first group of countries, these percentages range from nearly 8 for Canada to about 3 for Switzerland, with a median for the group at about 6 per cent. For the second group of countries the range is from about 7 per cent for South Korea down to less than 1.5 per cent for Greece and Spain. The median for this group is 3.5 per cent. Available data for the third group of countries show a range from about 7 per cent for Iraq down to less than 2 per cent for Pakistan. The median for these countries, however, is 4 per cent, which is somewhat higher than the median percentage for the sec-

ond group. We may therefore say that the countries educationally less advanced could possibly increase their efforts further towards meeting their educational needs, although we recognize that such needs constitute a relatively heavier burden on their national economy than in the case of the more favored countries.

A question might be posed here as to whether by raising the educational level of its people, a country can thereby reduce its birth rate and slow down its population growth. Unfortunately, there is not enough consistent and conclusive evidence to support such an expectation. At best it may be surmised that in countries with currently high fertility levels, raising the educational level of the population, particularly of women, and more especially up to completion of secondary school, could bring about a lowering of the birth rate, perhaps directly through extending the knowledge and practice of family planning, or perhaps indirectly through increasing the age of marriage, improving the socio-economic status of the family, and in other ways.[3]

ONE CONCRETE EXAMPLE

We shall conclude our study with one concrete example of a country with a large and growing population, faced with a heavy burden of educational needs which demands the utmost use of the country's resources.

India is the second largest country of the world, with a total population estimated at about 450 million. It is growing at an annual rate of almost 2 per cent, adding some 9 million persons to the population each year. Approximately 187 million persons 15 years old and over are unable to read and write, constituting more than 72 per cent of India's population at that age level. Although the rate of illiteracy had been reduced from about 81 per cent in 1951, there were 13 million *more* illiterate persons in 1961 than there were in 1951, due to the rapid population growth. Almost one-fourth of India's population are in the 5 to 14 years age group. Between 1950 and 1960, the total number of pupils in primary schools increased by more than 80 per cent (from 18.7 million to 34.2 million), while secondary school enrollment increased by nearly 75 per cent (from 70 thousand to 123 thousand). During the same decade, the percentage of national income which went into public expenditure on education increased more than threefold (from 0.8 to 2.6 per cent). Yet there was only a 50 per cent improvement in the school enrollment ratio, rising from 21 in 1950 to 31 in 1960. As of the latter date, nearly seven out of ten school-age children were still without the advantages of any formal schooling.

SOME GUIDELINES AND TARGETS

The example of India is by no means unique. Similar situations may be found among many other educationally disadvantaged countries. What, then, can these countries do to speed up their own educational development? There is, of course, no answer which can serve for all countries; much depends on the particular circumstances, traditions, and value systems of each nation. However,

[3] For recent summary discussions on this subject, see United Nations, *Population Bulletin* No. 7 (1963), chapter viii; also various papers presented to the World Population Conference (Belgrade, 1965), in particular: Philip J. Idenburg, "Educational Consequences and Determinants of Population Trends" (Background paper A.6/25/E/495); George W. Roberts, "Fertility" (Background paper A.1, B.1, B.2/18/E/483); Robert O. Carleton, "The Effect of Educational Improvement on Fertility Trends in Latin America" (A.6/I/E/152); Robert M. Dinkel, "Education and Fertility in the United States" (A.6/V/E/414); J. Mayone Stycos, "Education and Fertility in Puerto Rico" (A.6/I/E/236).

our present study, based on a limited analysis of available official statistics relating to population growth and educational development, may be useful in suggesting a few guidelines and targets, such as the following:

(1) A country can speed up its educational development by providing enough schools, classrooms and teachers to accommodate at least 50 per cent of its school-age children. The optimum target should be a school enrollment ratio of not less than 75 per cent.

(2) A country can carry out an intensive literacy program to bring up the educational level of its adult population, so that at least 50 per cent of those persons fifteen years old and over will have the basic skills of written communication. The ultimate aim should be an adult literacy rate of 95 per cent or higher.

(3) A country can devote still more of its material and financial resources to the task of education, increasing its public expenditure to no less than 5 or 6 per cent of its total national income. Eventually, total educational expenditure should be raised to a level equaling no less than 7 or 8 per cent of the national income.

(4) In order to achieve these targets, it would be imperative for most of the disadvantaged countries to reduce their annual birth rates to no more than twenty births per one thousand population, and their rates of population increase to no more than 1 per cent per year.

These are not utopian dreams. They are specific objectives already achieved or surpassed by many of the world's larger countries. They should be within reach by all.

Labor Supply and Employment in Less Developed Countries

By Jan L. Sadie

Abstract: The populations of less developed countries, compared to those of economically advanced countries, have relatively few adults of working age and many children as a result of their high birth rates. Their young people enter the labor force at an earlier age, and their men continue working to more advanced ages, but this prolongation of the years of economic activity is not enough to compensate for the heavy load of dependency inherent in the youthful age structure of the population. The proportion of women engaged in economic activities is also higher on the average in less developed countries, if available statistics reflect the true position; but, even so, the ratio of the economically active to the total population tends to be lower than in the more developed countries. At the same time, the high birth rates of less developed countries make for rapid growth of the economically active as well as the total population; typically they have two or three times as many persons entering the labor force annually as are separated from it by death and retirement. The peoples of these countries are thus doubly unfortunate: they suffer from a heavy dependency burden and at the same time have to accommodate large annual increments in the numbers clamoring for employment opportunities. With limited natural resources and inadequate capital formation, such opportunities are insufficient to satisfy the demand. The results are seen in mass underemployment, particularly among agricultural households and urban workers-on-own-account, and in unemployment among those who cannot resort to submarginal self-employment. In various ways, it is possible to mobilize and channel this idle labor so as to increase the productive capacity of the economy and to raise levels of income.

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THE source of a country's labor supply is the able-bodied population of "working age." The lower and upper limits of working age vary from country to country and over time, depending on the working habits of the people and the level of economic development. In developed economies the age group fifteen to sixty-four years is usually considered the relevant category; in less developed ones ten to sixty-nine, or even six to sixty-nine years might be considered more appropriate. For comparative purposes, we can follow the conventic f defining the population in the fifteen to sixty-four group as a country's "manpower." However, not all of them are economically active or members of the labor force, in the sense of participating, or seeking to participate, in the production of goods and services which are included in the national product. The size of this economically active portion of manpower is determined by the rates of participation in the labor force. For a measure of labor supply, it is necessary to consider also the amount of labor, or labor time, offered by these workers; this depends on, *inter alia,* the prevalence of part-time jobs and the length of the working week. For the purposes of this paper, however, the distinction between labor supply and labor force will be ignored.

We thus have two sets of proximate factors which determine what proportion of the total population will be economically active, namely:

(1) The demographic magnitude, that is, the age and sex structure of the population, which is affected by mortality, fertility, and migration.

(2) The propensity to participate in the labor force, reflected in the schedule of rates-by-ages. This factor, as indicated below, is not independent of the demographic variable, and both of them can be related to such ultimate determinants as economic conditions, psychological attitudes, and social or cultural values.

To study the variations of these factors in relation to degrees of industrialization, the countries of the world can be classified into three groups according to the percentage of their male labor force engaged in agriculture, namely, (1) agricultural countries, with 60 per cent or more in agriculture; (2) semi-industrialized countries, with 35 to 59 per cent; and (3) industrialized communities, having less than 35 per cent of their labor force in the agricultural sector.[1] This arrangement is not synonymous with a classification by degree of development, since it cloaks a great deal of variation in development of agriculture itself. Nevertheless, for present purposes and in terms of income *per capita* the first group may be considered the least developed and the third category, the economically most advanced countries.

The figures in Table 1 epitomize the economic problem of the less developed countries. They have youthful populations, with relatively small numbers in the manpower age group. The latter average 57.4 per cent in agricultural communities in comparison with 62.8 per cent for the highly developed countries. Among the former there are individual cases where the proportion is as low as 54 per cent, which means that the "dependent" group (those aged 0–14 and 65 and older) is not much smaller than the manpower category, the numerical relation of the "dependent" to the "manpower" group (or dependency ratio) being 82:100, compared to an aver-

[1] The data used to effect this classification refer to years around 1950. Between 1950 and 1960, however, only one country would have moved out of its 1950 category, according to the available information, namely, from the second to the third category. Due to the lack of the relevant data, Mainland China is not included.

TABLE 1—AGE COMPOSITION AND VITAL RATES FOR THREE GROUPS OF COUNTRIES

TYPE OF COUNTRIES	AGE GROUP IN YEARS				BIRTH RATE PER 1,000	LIFE EXPECTATION AT BIRTH (Years)
	0–14	15–64	65 +	Total		
Agricultural	39.2	57.4	3.4	100.0	38.3	46.1
Semi-industrialized	32.2	61.2	6.6	100.0	26.2	62.9
Industrialized	29.0	62.8	8.2	100.0	19.8	69.7

Source: United Nations *Demographic Yearbooks*. All magnitudes are weighted means.

age of 59:100 for industrialized countries. *Ceteris paribus*, among the latter each one thousand persons of working age would have to produce enough, on the average, to secure a living for themselves and some 590 dependents. In the least developed countries every such one thousand persons would have to take care of 740 dependents. Therefore, even if the product per unit of manpower were the same in the developed and less developed parts of the world, the average amount of goods and services available to the individual in the latter countries would still be the smaller by reason of the demographic factor. In statistical terms the gap might conceivably be closed through a higher degree of actual participation of manpower in economic activity, but inasmuch as such effort involves at least some disutility, it has to be set off against the additional income generated in this way.

It is not unlikely that the above disparity might increase as a result of further reductions in the level of mortality—conversely, rises in the expectation of life at birth—among the agricultural countries. Their average life expectation (46.1 years) is considerably below the figure of 69.7 years shown for advanced economies in Table 1. If the high rate of fertility of the former group —average birth rate 38.3 per 1,000 compared to 19.8 in industrialized countries —is not going to diminish, while the probability of survival improves, the already heavy dependency burden will be further increased.

ECONOMICALLY ACTIVE POPULATION

As explained above, the absolute and relative size of the labor force may differ from that of manpower inasmuch as less than 100 per cent of persons in the ages fifteen to sixty-four may actually be economically active, while some persons may start working before fifteen and continue after age sixty-four. Only if rates of participation in the labor force were the same in all countries would comparative analysis of the manpower-age group of population be adequate as a means of revealing the quantitative aspects of labor problems. This condition does not obtain in practice, as is shown in Table 2, which refers to males.

In all countries, regardless of their degree of economic development, almost all men between the ages of twenty and fifty-five are economically active. For ages below twenty and above fifty-five, and especially above sixty-five, consider-

TABLE 2—UNWEIGHTED MEAN RATES OF PARTICIPATION OF MALES IN THE LABOR FORCE BY AGE, AROUND 1960 (PERCENTAGES)

TYPE OF COUNTRIES	AGE		
	15–19	20–64	65 and over
Agricultural	76.6	95.1	70.2
Semi-industrialized	64.7	93.7	54.7
Industrialized	63.6	93.4	31.5

Sources: United Nations, *Demographic Yearbook, 1964*; International Labour Office, *Yearbook of Labour Statistics, 1964*.

ably larger proportions of the male population in the least developed countries are members of the labor force than in developed countries, the semi-industrialized nations occupying an intermediate position. In developed societies the demands of technology induce longer years of education and training, and entry into the labor market at a comparatively late age; the industrial structure, together with customs, rules, and regulations, inhibits continuation of the working career after age sixty-five or sixty, and an adequate level of national income per capita permits of early retirement. In low-income countries the predominance of agriculture and the prevalence of self-employment make for greater freedom of action in starting to work and continuing at advanced ages, while poverty obliges a minimum period of schooling and a maximum span of economically active life. Children are put to work at an early age to relieve the economic burden of large families, while the belief in the economic value of children as producers encourages parents to raise large families. The employment of children as young as seven or six years is not an unfamiliar phenomenon in Africa, Asia, and Latin America. For example, economically active children aged seven to fifteen in India have been reported to constitute some 11 per cent of the rural, and more than 5 per cent of the urban, labor force.[2] Going back in the history of the present developed societies we find that similar conditions prevailed in their early stages of industrialization.

Differences in labor force participation rates for various age groups can be translated into a single index called "the gross years of active life," when mortality among workers is disregarded. Taking a total potential working life span of 55 years between ages 15 and 70 as reference, it is found that the male populations of agricultural countries spend an average of 50.8 years in the labor force and those of semi-industrialized and industrialized societies, 49.6 and 48.4 years, respectively. If the potential span is raised to 65 years, with 10 as the lower and 74 as the upper level, the differences become more pronounced, the relevant magnitudes being 54.9, 52.7, and 49.8 years, respectively. Among individual countries the range is wider still.

When, however, the effect of mortality during this potential working life span is taken into consideration, the resulting average loss of years of active life is nearly three times as high among agricultural communities as among economically advanced countries. In consequence, despite the fact that the populations of the former group spend a greater portion of their lives in economic activity—as reflected in the gross indices—and that their average net years of inactive life (that is, outside the labor force) are thus reduced much below those of the developed nations, they remain at a disadvantage in terms of the net number of years spent in the labor force by the average man. The intermediate group of semi-industrialized countries are slightly better off in this respect.

If, now, the greater intensity of male labor force participation on the part of the less developed peoples were to compensate fully for their relatively smaller numbers in the manpower age group, it would have to neutralize the effects both of mortality, as depicted above, and of higher fertility levels on the age structure of their populations. That such compensation does not occur, is borne out by the figures in Table 3.

The data for males in Table 3 reveal differences in aggregate activity rates

[2] Rhamesh Chandra, "Effect of Low Incomes on the Size of Labour Force and Unemployment in India," *Indian Labour Journal* (December 1961), pp. 1163–1172.

TABLE 3—ECONOMICALLY ACTIVE PERSONS AS PERCENTAGE OF TOTAL POPULATION (UNWEIGHTED MEANS)

TYPE OF COUNTRIES	MALES		FEMALES	MALES AND FEMALES
	Around 1950	Around 1960	Around 1960	Around 1960
Agricultural	55.2	52.2	23.8	39.0
Semi-industrialized	57.8	54.5	21.4	37.2
Industrialized	62.2	58.6	24.5	41.0

Sources: United Nations *Demographic Yearbooks*; International Labour Office, *Yearbook of Labour Statistics, 1964*.

which are comparable to the disparities found in the analysis of relative manpower strength. At 52.2 and 54.5 per cent, the proportions of economically active males in agricultural and semi-industrialized countries around 1960 are well below that of the advanced economies (58.6 per cent). During the 1950's the male rates of participation at the lower and upper limits of the working life span have been decreasing in developed as well as in less developed countries without effecting any significant change in their relative positions.

There remains the possibility of the female complement of the labor force in the less developed communities making up the leeway. According to published statistics summarized in Table 3, this does not seem to eventuate. The inclusion of females reduces the gap without closing it. There is no significant relationship, either positive or negative, between degree of industrialization and crude female rates of participation in the labor force. The factors determining women's propensity to participate are many and varied, and their effects need not coincide, the demand for their services in the household depending on family size and age of children, employment opportunities, the social and the economic organization of production, the demand for income, biological and psychological factors and individual motivations, geographic mobility, customs and traditions, legal enactments and regulations, and the like.

Paid employment of married women is not considered a matter of course, and when it does occur they may still be regarded as housewives and so reported in the census. Some of these factors are responsible for inaccuracies or incompleteness of the enumerations of female workers, with the result that the relevant statistical data are surrounded with a great deal of uncertainty. The greatest source of uncertainty is the treatment of unpaid family workers; in poorer countries, they may make a very considerable contribution to the family income, *in natura* if not in money.

In the light of these considerations, and without disparaging the economic role of women, the dynamics of the labor problems of less developed countries can best be illustrated by continuing to concentrate on males.

LABOR FORCE DYNAMICS

Changes in the size of the labor force are brought about by (1) the entry of those who have survived to the ages at which they offer their services in the market or employ themselves or are put to work by the family, and (2) separations, caused by death and retirement. These magnitudes are determined by the activity rates, the level of mortality, and the age composition of the population, and can be expressed as percent-

TABLE 4—MOVEMENTS INTO, AND OUT OF, THE MALE LABOR FORCE PER FIVE-YEAR PERIOD

TYPE OF COUNTRIES	RATE OF ENTRY %	RATE OF SEPARATION DUE TO			REPLACEMENT	
		Mortality %	Retirement %	All Causes %	Rate %	Coefficient
Agricultural	19.1	6.8	1.5	8.3	10.8	232
Semi-industrialized	15.3	4.3	2.9	7.2	8.1	213
Industrialized	14.7	4.2	4.5	8.7	6.0	168

ages of the numbers in the labor force. The difference between the two rates thus calculated constitutes the rate of replacement, while the relation between the two can be called the coefficient of replacement. The rates shown in Table 4 relate to a period of five years (roughly, 1960–1965).

In the industrially least advanced countries the youthful age structure, in conjunction with early entry into the labor force, makes for a high rate of accession (19.1 per cent over five years) in comparison with industrialized economies (14.7 per cent). Just about one-third of these new workers are required to replace those who have died; only one-thirteenth of them are needed to compensate for retirements. By contrast, the replacement needs of advanced countries caused by mortality are considerably lower, but those originating in retirements are three times as high. As a result of compensatory movement in the two causes of separation, as between the least and most developed groups of countries, the aggregate rates of separation do not differ much, and it is, therefore, the high rates of accession to the labor force of the former which are responsible for their high average rate of replacement. The semi-industrialized communities, once more, occupy an intermediate position.

As a measure of the demographic pressure on the labor market, the coefficient of replacement is, perhaps, the most revealing index. For every 100 men separated from the labor market due to death and retirement there are, on the average, 232 men entering the labor force in agricultural countries, compared to 213 in semi-industrialized countries and 168 in the advanced economies. In some of the poorest countries the figure extends to 300, and promises to rise farther as mortality declines and increasing numbers of survivors among those being born now, reach the working age. If the "medium" projections of population contained in the United Nations' *Provisional Report on World Population Prospects as Assessed in 1963* were to be realized and sex-age specific activity rates remained constant, the labor force of the less developed parts of the world would expand by almost 400 million, or nearly 50 per cent, during the two decades 1960 to 1980, while in the remaining areas the expansion would comprise 78 million workers or 24 per cent. While the economically active population of the Asian continent is expected to increase more slowly than total inhabitants, it will be augmented, nevertheless, by more than 200 million during the 1970's, in comparison with fewer than 100 million during the 1950's, and its share in the world total could rise from 52 per cent in 1950 to 55 per cent in 1975.[3]

Leaving aside qualitative considera-

[3] International Labour Office, "The Population and Labour Force of Asia 1950–80," *International Labour Review* (October 1962), pp. 359–368.

tions, the labor force problems of the less developed economies are thus compounded of two elements, both of them economically prejudicial: their labor force in relation to total population is small, and, at the same time, large additions to the working force, which do not raise its relative proportions, have to be coped with. The first element is a factor making for a relatively low income per capita at any point of time; the second may be a cause of increasing numbers of unemployed and underemployed workers. The favorable attributes of a youthful and rapidly growing labor force: mobility, adaptability, and the prevention of a decline, or rapid decline, in the marginal productivity of capital, are, for all practical purposes, not relevant in less developed economies. Of much greater significance for economic growth and the creation of employment opportunities is the quality of labor—that is, the supply of skills, ingenuity, and entrepreneurial initiative —and not the quantity supplied. In this respect the less developed countries are not adequately served.

UNEMPLOYMENT AND UNDEREMPLOYMENT

Given that entreprenurial initiative is the fountainhead of economic growth in a free-enterprise society, increases in the labor force can only be accommodated at higher than submarginal rates of remuneration if (1) unused natural resources are still available for exploitation without investment or (2) new capital formation takes place, whether in the form of an addition to plant and machinery or the improvement of the productivity of natural resources. If these conditions do not obtain, unemployment or underemployment, or both, will result, the former in the organized labor market subject to wage contract, the latter in the subsistence economy or where economic activities are organized on a family basis or where self-employment predominates. Visible underemployment can be said to exist when participation is of less than normal duration and workers prefer to work longer hours per week or more weeks per annum. If the productivity of labor is abnormally low while duration of working time is not, disguised or potential invisible underemployment obtains. The conditions stated in these definitions are characteristic of less developed economies. What would have been unemployment affecting a portion of the labor force in an advanced economy is spread over large numbers of workers through the underemployment of each. Joblessness, as such, cannot really be afforded, or is not permitted where the family is the unit of production. The lack of a desirable alternative or the loss of the means of livelihood obliges acceptance of any sort of economic activity regardless of the level of income yielded.

In the agrarian economies where capital formation has been of minimal dimensions, natural resources have to bear the brunt of accommodating the ever expanding labor force. The outcome is a low or declining land-worker ratio and a fragmentation of holding. In some Latin-American countries, from 20 to 50 per cent of farms are less than 2 hectares in size; in Central Taiwan the average family of 8.3 members disposes of 0.44 hectares.[4] Consequently, members of the household are employed for only part of the year, or, if on a full-time basis, at diminishing levels of productivity. Agricultural countries are accordingly rife with underemployment. Estimates of its incidence (which are

[4] J. Elizaga, "The Demographic Aspects of Unemployment and Underemployment in Latin America" and S. C. Hsieh and T. H. Lee, "The Effect of Population Pressure and Seasonal Labor Surplus on the Pattern and Intensity of Agriculture in Taiwan," Proceedings, World Population Conference, Belgrade, 1965.

not necessarily comparable since the definitions and criteria used in various surveys differ) range from 12.5 per cent in the Philippines—or 21.5 per cent if invisible underemployment is included —to 22 per cent for Pakistan.[5] The numbers involved in the case of India are put at fifteen to eighteen million workers, and even if the proportion of the labor force in agriculture were to be reduced from 70 per cent in 1961 to 60 per cent in 1976, this sector would still have to accommodate an additional twenty-three million workers over the period of fifteen years. The dimensions of the problem can be gauged by the fact that during the decade 1951–1961, a transfer of only 2 per cent of the male population was achieved.[6]

Those who cannot find employment in agriculture, or elsewhere in rural areas, or who seek better opportunities, flock to the towns and cities, only to find that few jobs are to be had because of a lack of industrial development. Underemployment is thus transformed into unemployment and the disillusioned and frustrated victims become easy prey to demagogues. Those who cannot find a refuge with friends and relations have to resort to self-employment in any kind of economic activity that comes to hand, for example, as newspaper, cigarette, and lottery-ticket vendors, bootblacks, peddlers, hucksters, odd-job artisans, and the like. Accordingly, small businesses and home industries, very often of a submarginal type, proliferate. "Poverty-induced" entrepreneurs abound, particularly in Latin America, where the need is for the modern industrialist who can combine capital, labor and natural resources in economic units of production which provide paid jobs at a living wage. Thus, unemployment, which cannot be tolerated if it means destitution, is transformed into underemployment. But such a transformation is not always possible; in India, for example, despite a very energetic pursuit of economic development, the number of unemployed will have accumulated from five million at the end of the first five-year plan to some twelve million by the end of the third plan.[7]

UTILIZING IDLE LABOR

To suggest that less developed countries solve their employment problems by copying the example of those countries which have now reached an advanced stage of economic development is not very meaningful. Concerning ourselves with proximate factors in the situation rather than with fundamental determinants—which include many elements of a noneconomic character—solutions, in the nature of ameliorative measures, have to be formulated which take account of the constraints imposed by the absence of the conditions of economic progress, such as the modern industrial and commercial entrepreneur with know-how and experience and adequate savings and markets.

In many parts of the world, part-time farming is a means of relieving the pressure on the land. Working the land is combined with jobs, during slack seasons, in secondary and tertiary industries. It has the advantage of obviating the necessity of expenditures on housing, social, and other services in urban areas. It presupposes, however, the existence of opportunities outside the agricultural sector. These could be created if there were a certain amount of industrialization (some of which might be located

[5] Cf. Jan. L. Sadie, "The Demographic Aspects of Labour Supply and Employment" (Background paper A.5/19/E/484), United Nations World Population Conference, Belgrade, 1965, and sources quoted there.

[6] Shri B. N. Datar, "Demographic Aspects of Unemployment and Underemployment with Particular Reference to India," Proceedings, United Nations World Population Conference, Belgrade, 1965.

[7] *Ibid.*

economically in the smaller towns), or if certain administrative activities of government were decentralized.

In southern European countries and in Africa, the problem of under- and unemployment is contained through the system of migratory labor. In Africa the seasonal requirements of commercialized agriculture and industry in the market sectors are either complementary to the seasonal needs of subsistence agriculture, or the latter are taken care of by other members of the household when the chief breadwinner is away for a spell of work. 2,500,000 or more are involved in the annual flow of migrant workers.[8] As long as this process can continue, it is tantamount to a solution, particularly since participants appear to prefer the combination of periodic wage-earning with the social security provided by their pieces of land. (The migratory labor system may be one of the reasons, however, why, in many cases, the deleterious aspects of traditional "shifting" agriculture in tropical Africa have not been jettisoned.) In Europe the outcome will depend on whether most of the approximately three million workers will eventually qualify for domicile in the receiving countries, or, failing that, whether the relief provided by the system to the countries of origin will serve as a breathing space for the generation of a sufficiently rapid rate of economic growth to absorb all workers.

In some countries it is still possible to reduce underemployment by introducing or extending labor-intensive cropping systems which will increase the yield of land. They involve the optimalization of land use, the rotation of crops, which might be increased from one to two or three per year, and some overlapping of planting and cropping seasons. In Taiwan, linear programming of the cropping system has led to a 70 per cent increase in the amount of labor time productively spent on the average landholding, and raised the farmers' income by more than 100 per cent.[9] In Pakistan, on the other hand, this approach appears to be excluded.

There are, however, limits to the extent in which enforced idleness on the farming unit can be reduced, and because of the seasonal nature of agriculture, the magnitude of underemployment is not synonymous with the number of workers who could be removed without reducing output. In community development schemes, the idle time can be harnessed for purposes of capital formation. This can take the form of the reclamation of land and the drainage of swamps (which, in addition to increasing the cultivable area, can reduce the incidence of some diseases); of terracing and similar projects to prevent erosion or restore fertility of the soil; the construction of roads, fences, and buildings for storage purposes; the digging of reservoirs and canals for the irrigation of crops, which can thus be stabilized or even greatly increased; and the afforestation of areas which cannot be more productively exploited.

With regard to the many young workers involved in the exodus from rural areas, ill-prepared for participation in urban economic and social life, the formation of "corps of pioneers" or National Development Armies, modeled on the military draft system, has been proposed.[10] They are to function as reservoirs "collecting manpower from areas of surplus and delivering it to areas of deficit."[11] These areas could refer to

[8] J. L. Sadie, "Manpower Resources of Africa," *South African Journal of Economics* (December 1963), pp. 264–284.

[9] S. C. Hsieh and T. H. Lee, *op. cit.*

[10] A few such schemes are already being operated.

[11] Anthony Zimmerman, "A Proposed Mass Technique to Promote Fuller Utilization of Human Resources in Developing Countries,"

both geographic areas and economic sectors. Under strict armylike discipline youths would be taught reading, writing, handling of tools, machinery, building and arithmetic and instructed in the materials, financial accounts, and monetary matters, while those intending to return to the land would learn modern agricultural methods. Camp labor could be leased to private enterprise, and at the end of the period of instruction trainees might be channeled to various jobs. As in the case of underutilized agricultural labor, these youths, during their stay in camps, could contribute to capital formation by participating in the construction of roads, irrigation, and drainage systems; the opening up of new territory for settlement; and the creation of simple dwelling units. In similar institutions, female draftees could be instructed in the arts of homemaking.

Thus can a community's productive capacity be increased by harnessing factors of production, which have no opportunity costs within the orbit of the market mechanism, and with the use of a bare minimum of scarce resources. When the latter constraint is lifted, it becomes possible to widen the range of measures which can be adopted to deal with the problem of accommodating the ever increasing numbers clamoring for employment opportunities.

Proceedings, United Nations World Population Conference, Belgrade, 1965.

Demographic Transitions and Population Problems in the United States*

By IRENE B. TAEUBER

ABSTRACT: The development, growth, and transformation of the population of the United States were unique in the late settlement; the vast, rich, and sparsely settled area; and the immigrant formation. There were demographic transitions rather than a unidirectional process. Birth rates were very high in the colonial and early national periods, declined in rural areas and cities alike to the 1930's, and then rose substantially, only to decline again for roughly a decade now. The occupational movements from agricultural to professional and related activities, the advances of education to high levels, and the changes from rural to urban and then to metropolitan residence underlay the demographic transitions. A generation ago the problems appeared those of decline; a decade ago the problems seemed to be those of a rapid growth that would eventually press on resources, economy, and social facilities. Today assessments of the future are conjectural. The major population problems are those of metropolitan agglomeration, particularly the differentiations of central cities and outer areas; the swift movements of the disadvantaged Negro population into central cities; the massive irregularities in age changes introduced by the changing birth rates of past years; and the adjustments to exodus from the Deep South and the mid-continent and influx to Florida, the Southwest, and California. The most intricate problem is the reconciliation of the ideals of family size prevalent in the generally affluent population with the economic, social, and political developments that are muted and eventually jeopardized by continuing increases in numbers.

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*This article utilizes analysis in process for a volume on *The Changing Population of the United States: 1900 to 1960*, jointly with Conrad Taeuber, in the series of monographs on the

THE increase, expansion, and transformation of the population of the United States are unique in the annals of world development. No other modernizing population had available to it a continental area so superbly supplied with the resources for agriculture and industry and so sparsely utilized. Our problems of population are not rooted in the antiquity of history, the intensity of land use, or the paucity of resources for the industrial economy. They are, rather, products of unbalanced or ill-advised interplays of demographic factors with political, economic, and social developments or their absences.

The experience of the United States in the past does not forecast the future elsewhere, nor indeed is our own future simply forecast. The singular aspects of the increase, the geographic expansion, and the metropolitan concentration are a distinctive laboratory for the assessment of many processes and interrelations. Here, perhaps, the inherent forces in growth and modernization may be separated from the coincidental. Here immigrants and their descendants formed a population that was American, but acculturation did not preclude ethnic problems defined mainly in terms of African ancestry.

The timing of the American epic is critical to its wider relevance. The centuries of development spanned the transition from animate to inanimate power, from tradition and folklore to science and technology, from rural settlement to metropolis, from pervasive deaths and abundant births to postponed deaths and controlled births.

DIMENSIONS

In 1790, the population of the newly formed United States of America was 3.9 million. Ninety-five per cent of the people were rural, and some 85 per cent were agricultural. Birth rates were above 50 per 1,000 total population, and more than half the people were less than sixteen years of age. Increase was 35 per cent or more a decade.

This is not prelude to a Malthusian tale, though Malthus cited early America as indicative of man's potential to reproduce and the statesmen of the time were concerned with land for the multiplying people. The epic of the first century, the years from 1790 to 1890, was increase and expansion. The population was less than 4 million in 1790. It reached 25 million in 1850, 50 million in 1880, 75 million in 1900. Fertility was declining along with mortality, and rates of natural increase were slowing. The economic problem was labor sparsity; millions of immigrants contributed to economic development and cultural diversity. The land area was extended from the Atlantic to the Pacific, from the Great Lakes to the Rio Grande. Hawaii and Alaska added Pacific dimensions to production and trade, communication and exchange, political responsibility, and military decisions.

The years from 1890 to 1900 were transitional in economic growth and population dynamics. The nation had developed the most productive agricultural population the world had yet seen; that population declined as the youth

1960 census, sponsored by the Social Science Research Council in co-operation with the Bureau of the Census. Three reports from the study have been published by the Bureau of the Census: *United States Census of Population, 1960: Selected Area Reports: Standard Metropolitan Statistical Areas,* Final Report PC(3)-1D (Washington, D.C.: U.S. Government Printing Office, 1963); *United States Census of Population, 1960: Selected Area Reports: Type of Place,* Final Report PC(3)-1E (Washington, D.C.: U.S. Government Printing Office, 1964); *Population Trends in the United States: 1900 to 1960,* Technical Paper No. 10 (Washington, D.C.: U.S. Government Printing Office, 1964).

of the agricultural areas moved to more abundant living in urban areas and nonagricultural occupations. Urbanization was continuing. By 1900, 40 per cent of the population lived in places of 2,500 or more, and more than 60 per cent of the economically active population labored outside agriculture. Thirteen per cent of the young adults had finished high school; almost 3 per cent were college graduates. Birth rates were declining along with economic and social change. The birth rate had been perhaps 55 in 1820; in 1900 it was 32. Numbers of children below 5 years of age per 1,000 women aged 15 to 44 were 1,295 in 1820; in 1900 they were 666.[1]

The decades from 1900 to 1960 were ones of rapid and generally quickening change. The major process in distribution was the concentration in metropolitan areas. The major process in occupational transformation was the growth in professional, technical, and managerial workers. The major process in education was the advance to high school graduation as median level and the increasing orientation to college education. The demographic response to this evolving world of the twentieth century was traditional for the first four decades. Death rates declined rapidly; birth rates declined precipitantly. Millions of immigrants had entered the metropolitan areas prior to the restrictions of the quota system; they, too, participated in the demographic transition. The childbearing of the foreign-born women may have buoyed fertility, but the maximum postponement of marriage, the maximum childlessness, and the minimum marital fertility were those of the upwardly mobile population of foreign or mixed parentage. By the 1930's birth rates had fallen to 19 per 1,000 total population. In 1935 the gross reproduction rate was 1,091, the net rate 975. Declining fertility characterized rural as well as urban populations; it prevailed among Chinese, Japanese, and Negroes, as well as Caucasians. Projections of the trends of the then present indicated a maximum population within a generation. The outlook was gloomy—and the assessment of that outlook was based on analyses of declines in fertility and mortality that had been in process for a century and a half.

The projections of the 1930's were enormously erroneous.[2] Economic growth, rural depopulation, metropolitan increase, educational pushes of men to higher and higher levels, an affluence that defined family incomes of less than $3000 as poverty—these were the characteristics of the 1940's and 1950's. Age at marriage and the proportions who never married declined. Voluntary childlessness almost vanished. The fertility of the married increased. There were projections of continuing growth to massive numbers at future periods. Demographic pessimism prevailed again. But again projection of a present into an indefinite future seems to be proving erroneous. The birth rate that had been 25.3 in 1957 declined to 22.4 in 1962 and to 19.4 in 1965.[3]

The economic and social consequences

[1] Summaries of census and vital statistical data from 1790 to the time of report are presented in: U.S., Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1957* (Washington, D.C.: U.S. Government Printing Office, 1960). For current data: *Statistical Abstract of the United States, 1965* (86th ed.; Washington, D.C.: U.S. Government Printing Office, 1965).

[2] For summaries of population dynamics, projections, and assessments: Conrad Taeuber and Irene B. Taeuber, *The Changing Population of the United States,* (Census Monograph Series; New York: John Wiley and Sons, 1958).

[3] U.S., National Center for Health Statistics, "Births, Marriages, Divorces and Deaths for 1965," *Monthly Vital Statistics,* Report 14(12), February 28, 1966.

of the changing rates of growth are inherent in the future. Today's population will carry its irregularities in age dynamics and age structures over time until those now infants become the aged. The critical question is the duration and the magnitude of future growth. Projection of the levels of the recent period show the population of 195 million in 1965 reaching 300 million in 1990, 400 million in 2010. No sophisticated person assumes that the population of the United States has to reach 300 million within a quarter century; 400 million within a half century.[4] But what numbers will it reach? Where will the people of the future live? How will they vary by color, by education, by residence in and outside the central cities of metropolitan areas? Will the future evolve without essential problems of numbers? Or will the slowing of growth that must come sooner or later proceed through pressures generated by the growth itself?

URBANIZATION AND METROPOLIS

Growth in numbers and in proportions urban characterized the population of the United States from 1790 to the present. The urban population increased almost 40 per cent from 1900 to 1910, more than 20 per cent each decade thereafter except in the 1930's. Rural increase was less than 10 per cent from 1900 to 1910, negative from 1950 to 1960. The population of the United States was 76.2 million in 1900, 179.3 million in 1960. The urban population increased from 30.2 million in 1910 to 125.3 million in 1960, the rural from 46.0 million in 1900 to 54.1 million in 1960. In the latter year, only 7.5 per cent of the population lived on farms in rural areas.

[4] U.S. Bureau of the Census, "Projections of the Population of the United States, by Age and Sex: 1964 to 1985," Current Population Reports, *Population Estimates*, Series P-25, No. 286 (July 1964).

Urban transformation involved the growth of metropolitan areas on the one hand, the depopulation of the countryside on the other. In 1960, the 70 per cent of the population that was urban occupied one per cent of the land area, whereas the 30 per cent that was rural occupied 99 per cent. Half the counties declined in population from 1950 to 1960; many of them had also declined from 1940 to 1950.

The major areas of concentration were the counties in the Standard Metropolitan Statistical Areas (SMSA's) of 1960 (Table 1). They included 42 per cent of the total population in 1900, 63 per cent in 1960. Perhaps the most incisive index of metropolitan concentration is the proportion of the total national increase that occurred in these metropolitan counties. That proportion was almost two-thirds in the first decade of the century, more than three-fourths in the second, more than four-fifths in all other decades except the 1930's, when it was two-thirds. The metropolitan concentration of the Negro population was continuing and spectacular; in the last three decades the rate of increase has been twice that for whites.

The formation of the metropolitan population differed increasingly from simple growth across a hierarchy of places from hamlet to great city. Until the 1920's, rates of increase were associated positively with size of place. In recent decades, modern means of transportation, rising incomes, and general affluence have been associated with dispersion from central cities to peripheries. In the twenty years from 1900 to 1920, metropolitan population increased 65 per cent. The increase was 75 per cent in the central cities, 48 per cent outside them. In the twenty years from 1940 to 1960, the metropolitan population increased 55 per cent. The increase was 27 per cent in central cities, 102 per cent outside them.

TABLE 1—PER CENT POPULATION BY ETHNIC GROUP, AND METROPOLITAN RESIDENCE BY ETHNIC GROUP, SELECTED DATES, 1900 TO 1960

GROUP AND AREA	1900	1920	1940	1950	1960
Ethnic group	100.0	100.0	100.0	100.0	100.0
White	87.9	89.7	89.8	89.5	88.8
Negro	11.6	9.9	9.8	10.0	10.6
Total population	100.0	100.0	100.0	100.0	100.0
SMSA	41.9	49.7	55.1	59.2	63.0
Central City	26.0	32.8	34.5	34.7	32.3
Outside	15.9	16.9	20.6	24.5	30.6
Outside SMSA	58.1	50.3	44.9	40.8	37.0
White population	100.0	100.0	100.0	100.0	100.0
SMSA	44.0	51.6	56.2	59.7	62.8
Central City	27.6	33.9	34.9	33.8	30.0
Outside	16.3	17.6	21.3	25.9	32.8
Outside SMSA	56.0	48.2	43.8	40.3	37.2
Negro population	100.0	100.0	100.0	100.0	100.0
SMSA	26.6	33.9	45.4	55.6	64.7
Central City	14.5	22.8	33.9	43.0	51.5
Outside	12.1	11.1	11.5	12.6	13.2
Outside SMSA	73.4	66.1	54.6	44.4	35.3

Source: Irene B. Taeuber, *Population Trends in the United States, 1900 to 1960*, U. S. Bureau of the Census, Technical Paper No. 10 (Washington, D. C.: United States Government Printing Office, 1964), Table 2: Population in the areas defined as SMSA (Standard Metropolitan Statistical Area) in 1960, with central city populations as of the dates of enumeration, Conterminous United States.

TABLE 2—PER CENT CHANGE IN POPULATION BY ETHNIC GROUP AND IN METROPOLITAN RESIDENCE BY ETHNIC GROUP, 1900 TO 1960

GROUP AND AREA	1900–1910	1910–1920	1920–1930	1930–1940	1940–1950	1950–1960
Total population	21.0	14.9	16.1	7.2	14.1	18.8
SMSA	32.0	24.9	27.1	8.8	22.6	26.3
Central City	37.1	27.7	24.3	5.6	14.7	10.7
Outside	23.7	19.9	32.3	14.6	35.9	48.5
Outside SMSA	13.1	6.5	5.4	5.4	3.7	7.9
White population	22.3	16.0	16.3	7.2	13.8	17.8
SMSA	32.6	25.4	25.7	8.2	20.7	24.0
Central City	36.9	27.2	22.9	4.4	10.2	4.7
Outside	25.4	22.2	31.1	15.0	38.0	49.2
Outside SMSA	14.2	7.4	6.3	6.0	4.8	8.7
Negro population	11.3	6.5	13.6	8.2	16.8	25.4
SMSA	19.9	25.8	40.7	17.0	43.2	45.9
Central City	32.6	40.0	52.4	19.9	48.1	50.3
Outside	4.6	4.2	16.7	9.2	28.5	30.8
Outside SMSA	8.1	−1.3	−0.2	1.8	−5.1	−0.3

Source: See Reference, Table 1.

TABLE 3—PER CENT POPULATION CHANGE, BY AGE, ENUMERATED AND ESTIMATED POPULATIONS, SELECTED DECADES, 1890 TO 1980

AGE	ENUMERATED POPULATIONS			PROJECTED POPULATIONS	
	1890–1900	1930–1940	1950–1960	1960–1970	1970–1980
Total	21.4	7.6	18.8	15.6	19.4
0–4	20.1	−7.2	24.4	5.9	41.0
5–14	16.1	−8.4	44.6	15.4	17.6
15–24	16.8	6.9	8.4	47.9	15.2
25–44	26.3	10.1	3.9	2.4	29.2
45–64	27.0	22.3	19.3	15.5	3.2
65 and over	27.4	36.4	32.0	17.6	17.8

Sources: 1890–1960—processed from decennial census resports; 1970 and 1980—U. S. Bureau of the Census, "Revised Projections of the Population of the United States by Age and Sex to 1985," Current Population Reports, *Population Estimates*, Series P-25, No. 329, March 10, 1966. Estimate 3—assumptions of increasing life expectancy, a net immigration of 400,000 a year, and a fertility moving toward a terminal level of 2.775 births per woman, the average level of 1945–1946.

There are distinctive concentrations of whites and Negroes within metropolitan areas. Between 1950 and 1960, the white population increased 5 per cent in central cities, 49 per cent outside them, while the Negro population increased 50 per cent in central cities, 31 per cent outside them (Table 2). In 1960, more than half the white population of SMSA's lived outside central cities, while almost four-fifths of the Negro population lived within them. In 1900, Negroes constituted 6 per cent of the population in central cities, 9 per cent outside them. In 1940, the percentages were 10 and 6. In 1960, they were 17 and 5.

Thus, the economic difficulties and the social tensions of demographic change involve both growth and distribution. The increasing cohorts of those born in the years of declining but still sufficient fertility were followed by the declining cohorts of those born in the years of very low fertility. Then there were the larger cohorts of those born in the years of increased fertility. Now births are again declining, but numbers may increase again as youth now maturing reach the childbearing ages. Gyrations in rates of change by age introduce major problems of adjustment, whatever the views as to the relations of over-all growth to economic functioning, resources sufficiency, and the quality of living (Table 3).

The problems of distribution are also severe. Adjustments were difficult as depopulation characterized the open country and the small towns. The swift growth of metropolitan areas and regions outpaced man's effective ingenuity. Perhaps the most intricate of the problems concern the economic, social, and ethnic differentiations in central cities and in dispersion from them.

TRANSFORMATION AND MIGRATION

Major changes in occupations and in education underlie changing rates of population growth and altered migrations. In 1900, more than half the economically active population was in agriculture; in 1960, the proportion was one-sixth.[5] In 1900, 4.3 per cent were

[5] David L. Kaplan and M. Claire Casey, *Occupational Trends in the United States, 1900*

in professional, technical, or related occupations; in 1960, the percentage was 11.4. Today, persons in professional and technical occupations are more numerous than those in farm occupations; they are also more numerous than laborers outside agriculture. Professional, technical, and managerial workers outnumber farm operators, farm managers, and all laborers, farm or nonfarm.

The upward educational movement was as astounding as the occupational transformation. In 1900, almost 25 per cent of the population aged 25 to 29 had only a fourth-grade education or less; in 1960, the percentage was less than three.[6] In 1900, only 2.6 per cent of those aged 25 to 29 had completed college; in 1960 the percentage was 11. Upward progression in educational level was fairly consistent from 1900 to 1940 for men and women, but then the educational attainments of men moved upward swiftly while those of women lagged. Early marriage and more abundant childbearing influenced not alone the labor force participation of women but the capabilities for functioning at higher levels.

The educational advance, as the occupational transformation, was the path to full participation for those youth who achieved high levels. The limitation to education was a basic barrier. Education was related directly to age; each cohort was potentially more productive than those that preceded it, less productive than those that followed it. But educational level, which was an enduring capability of the adult, placed enduring handicaps on those who came from remote rural areas, lowly economic backgrounds, or disadvantaged ethnic status. The demographic relevance was and remains major. Given earlier marriage and higher fertility among the less educated, the persistence of deprivation is accentuated.

The development of the metropolitan population involved diverse, massive, and continuing migration. In recent decades the predominant regional movements have been westward and southward. Florida, the Southwest, and California were the major areas of gain. The Deep South, Appalachia, the Mississippi-Missouri valley, and the high plains were the major areas of loss. The process is apparent if attention is focused on the movements of youth in the 1950's. In the age group that was 15 to 19 in 1950, 25 to 29 in 1960, all regions lost native whites except the West, all regions gained Negroes except the South.

The urbanward movement dwarfed the regional and subregional ones, for they occurred alike within regions and in regional interchanges. There were also expansions of urban areas, contractions of rural areas. Again in the decade of the 1950's, and again for youth, the percentage gains in urban population through net migration and area expansion amounted to 8 for the Northeast, 23 for the North Central Division, 33 for the South, and 69 for the West. The percentage losses in the rural population amounted to 12 per cent in the Northeast, 27 per cent in the North Central Region, 25 in the South, and 23 in the West.

The changes were accentuated in the nonwhite population. The percentage increase of young adults through net migration was 82 in the Northeast, 78 in the North Central Region, 17 in the South, and 171 in the West. In the decade of the 1950's, the rural South lost 57 per cent of the Negroes aged 25

to 1950, U.S. Bureau of the Census, Working Paper No. 5. (Washington, D.C., 1958).

[6] These percentages are approximations, based on an analysis of the data on years of school completed by age in 1940 on the assumption that education was a relatively unchanging characteristic of individuals, and that survivors in specified years represented the total cohort at earlier years.

to 29 who would have been there had there been neither net migration nor urban expansion.

Given the depletion of the rural farm population, the massive departures from such areas as Appalachia, and the exodus of Negroes from the Deep South, the migrations and redistributions of youth will be increasingly intermetropolitan. The problems of absorbing the severely disadvantaged will decline progressively if the metropolitan areas themselves provide educational and other opportunities for the youth who will be involved in the metropolitan interchanges of the future.

DEMOGRAPHIC TRANSITIONS

If the demographic transitions in the United States are examined in comparative focus, the queries are more numerous than the answers. The earliest transition was doubtless increase in fertility along with decline in mortality among the colonists as contrasted with the European peoples of origin. The national transition to declining fertility was already in process when the thirteen states formed a federal union. That decline accompanied industrial and social advance; it probably preceded the decline in mortality. Decennial rates of natural increase declined continually from the late eighteenth and early nineteenth centuries through the 1930's of this century.

Mortality declined as medical attention became more available, the store of science and technology relevant to health and longevity larger. The critical questions concern the declines in fertility. The forces that would seem to stimulate early marriage and large families long remained operative. If America was the land of opportunity in the late eighteenth century, it certainly remained so throughout the nineteenth century. Homesteads were available until 1890, even thereafter. Millions of immigrants confirm the fact of labor sparsity in the development of the industrial economy. The explanation of the declines in fertility must lie in aspirations and opportunities. Perhaps individualism and the democratic concept were critical. There was faith in an ever-moving future whose limits were fixed by an almost boundless nature rather than by man. Parents believed that children should move upward from the parental position, whatever that position was. The path to mobility was education. Schools were local institutions, available to girls as to boys. The upward extension of public education was a major innovation in the American development. With the establishment of the land grant colleges and the universities, public education was available from the elementary school to the postgraduate and professional levels.

The interpretation of fertility changes in the past, the explanation of current levels and differentials, and the estimation of the future are alike complex. The birth rate per 1,000 population is precise but difficult to interpret. The rate declined from 30.1 in 1910 to 18.4 in 1936, then rose to 25.3 in 1957. It has now been declining for nine years; it was 19.4 in 1965. Some refinement is introduced if births are related to the numbers of women in the reproductive ages of 15 to 44. The fertility rate was 127 in 1910. It declined to 76 in 1936, rose to 123 in 1957, declined to 97 in 1965.

The conclusion of rapid movement toward the lower fertility of the 1930's would be premature, for the births of given periods may be deflated or inflated by changes in the age at marriage and in the timing of those births that are desired. The age at marriage decreased sharply in the war and postwar years; it is now increasing. The prevalent pattern became one of early childbearing; this too may be changing. Perhaps

people now young will have smaller families. Recent studies of ideals, expectations and performance suggest that this may occur. If so, final size of family may decline when those now young complete their childbearing years.[7]

The larger relevance of the recent American transition to higher fertility is not dependent on the still conjectural answers as to the behavior of fertility in the coming decade. The decline of fertility, as the decline of mortality, was an aspect of modernization. The terminus of decline was not in depopulation and disappearance. Rather, marriage, family, and children were enduring values.

PRESENT AND FUTURE

Population problems are a natural component in change. This is apparent in the less developed countries, where declines in death rates, aspirations beyond realities, and the complicated problems of economic and social development make the traditional high birth rates that were once essential to continuity a hazard to development and a threat to continuity itself. It is equally true in the United States. If the severe limitations to childbearing had continued, the population would now be aging and declining. If the high rates of reproduction of the early postwar years had continued, severe pressures of population on agricultural and other resources would have developed. Three essential facts should be emphasized. (1) The alternative of decline and disappearance did not occur. (2) Current trends make the alternative of continuity at the relatively high levels of the recent past dubious. (3) Since fertility now depends on the motivations and decisions of the couples in a dynamic economic, social and political milieu, it is changeable.

The population growth implicit in the future is substantial, in part because of the enlarged age groups now entering childbearing years, in part because marriage, family, and children beyond two remain ideals for young Americans. What, then, is the range of the future? Population is now more than 195 million. If mortality declines further, if immigration is slightly above present levels, and if fertility moves toward the annual level of 1953, the population will be 273 million in 1985.[8] The birth rate will be 25.2, the death rate, 8.8, the annual growth, 1.8 per cent. If other changes remain the same but fertility declines to the annual level of 1941–1942, the population will reach 239 million in 1985. The birth rate will be 20, the death rate, 9.7, the annual rate of growth, 1.2 per cent. If the difference between the populations that result from these variant fertility assumptions seems limited, it need only be noted that all persons who will be aged twenty and over in 1985 were already alive in 1965. The differences in projected numbers below age twenty are large. The implications of the alternate trends for the responsibilities of parents, the needs for educational and

[7] Ronald Freedman, Pascal K. Whelpton, and Arthur A. Campbell, *Family Planning, Sterility and Population Growth* (New York: McGraw-Hill, 1959). Pascal K. Whelpton, Arthur A. Campbell, and John E. Patterson, *Fertility and Family Planning in the United States* (Princeton, N.J.: Princeton University Press, 1966). Charles F. Westoff, Robert G. Potter, Jr., Philip C. Sagi, and Elliott G. Mishler, *Family Growth in Metropolitan America* (Princeton, N.J.: Princeton University Press, 1961). Charles F. Westoff, Robert G. Potter, Jr., and Philip C. Sagi, *The Third Child: A Study in the Prediction of Fertility* (Princeton, N.J.: Princeton University Press, 1963).

[8] U.S. Bureau of the Census, "Revised Projections of the Population of the United States by Age and Sex to 1985," Current Population Reports, *Population Estimates*, Series P-25, No. 329, March 10, 1966.

other facilities, the expansion needed in the labor market, and the formation of new families differ widely. In 1965, there were 77 million youth below age twenty in the population. Given continuation of fertility at the 1953 level, the number would increase to 112 million in 1985. Given decline in fertility to the 1941–1942 average level, the number would increase only to 79 million.

The population problems of the United States involve the numbers of the population, over-all and in the various age groups. This is only initial base for the complicated problems of movement within and toward a society that meets the needs and aspirations of its members. There are problems of flexibility in the dynamics of a population whose age groups change at varying rates in different times (Table 3). There are all the problems of developing proper amenities, more equalitarian distribution, and more democratic opportunities in metropolitan areas. There are the continuing problems of transition for the disadvantaged who are moving from places of lesser to places of greater opportunity. There are the problems of ethnic and nativity groups whose access to the potentialities of the society is limited by color of skin or place of origin.

The most intricate of population problems is posed by the changing population trends of recent decades. Those problems of numbers that we now have or may have are product of the decisions of many families to have three or more children. Most of the families who so decided accepted the parental responsibilities that were involved and had sufficient resources to do so. Yet, given today's low mortality, along with the early and almost universal marriage and the virtual absence of voluntary childlessness, the three-child family yields substantial population increase. The actions of couples in accord with their ideals as to family size and the family-oriented life yield the relatively high rates of growth that may be deterrents to economic development and social advance. The decisions as to parenthood that are the inalienable rights of the couple thus present a democratic society with its greatest challenge in public education.

SUPPLEMENT

Recent Trends in Ethnology

By Robert T. Anderson

ETHNOLOGY is more than a science. It is a way of life. Of course, any scholarly discipline becomes a way of life for its practitioners, and one expects scholars to emerge from their studies with distinctive self-images and world-views which integrate their professional concerns and activities with their lives as wholes. Ethnology as a way of life is distinctive, though not unique, for its comprehensiveness or holism. Sometimes merely eclectic, always hopeful of being synoptic, ethnology need exclude no man, it need ignore no scholarly domain, as it pursues, at once humbly and presumptuously, "the study of man and his works."

It may very reasonably be observed that a discipline which attempts so much takes the risk of not being a discipline at all: technically sophisticated research melts into dilettantism if one attempts to do too many things. And, indeed, within ethnology one encounters a strong tendency for investigators to restrict their work to sharply delimited fields of inquiry. The history of ethnology, as often that of individual ethnologists, is one of a ceaseless give-and-take between delimited, rather technical kinds of research and the broadest of interpretive writing. In this, the last five years have been no exception. The field, however, still belongs to the champions of a comprehensive discipline. One sees this in extensive collaborative undertakings, particularly in work undertaken jointly with representatives of the other behavioral sciences. Cross-disciplinary stimulation and cooperation have been the hallmark of all fields of knowledge in recent decades. The interaction of ethnologists with psychologists, sociologists, economists, and others is neither new nor unusual.

What is unusual for the last few years has been the stimulation and direction given to openness within the field of ethnology itself. Ethnology has long tended to be nationally parochial. Much of its discourse has been confined to one or another national or language area. Ethnologists have often been more receptive to the work of those other behavioral scientists who write in their own tongue than to ethnologists in other parts of the world. This situation began to change precipitously in

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1960 with the appearance of the first issue of *Current Anthropology*. Under the aggressive leadership of Sol Tax, a journal has appeared which is refreshingly novel in its willingness to serve as an open forum for an audience that cuts across the traditional boundaries of academic, linguistic, or political affiliation. This journal's audience was very loosely organized into a society of associates which seemed, almost spontaneously, to become a kind of public society of pen pals, seriously dedicated to the study of human culture and society in all of its dimensions. As a result, mere awareness that there exist different kinds of problem-interest has matured into a new kind of mutual understanding and stimulation. Needless to say, this has not led to massive agreement on what ethnology is or should be. Quite the contrary, the field seems more diverse than ever. Yet, by this very diversity, it perpetuates its dedication to comprehensiveness.

All of this should indicate that a survey of recent trends within the confines of a journal article can only hope to be impressionistic. Such a survey, difficult enough for a single language area, is all the more difficult if it aims to cover ethnology as a world-wide endeavor. One can, however, give at least a feeling for current trends by taking a look at recent work in some of the major realms of inquiry. Social organization, economic anthropology, and the ethnology of religion will serve this purpose.

SOCIAL ORGANIZATION

Until the end of the Second World War, anthropologists mainly devoted themselves to the study of simple band and village societies. More recently, they have expanded their universe of inquiry to include complex societies, but with an emphasis upon the peasant village.[1] Only in the last two or three years have they turned in numbers to what now goes by the name of urban anthropology. The persistent concern of ethnologists with kinship behavior is an inevitable result of this history of working with small, local societies in which family behavior in its plenitude of forms constitutes the fundamental basis for social interaction.

Because kinship behavior has a high degree of systemic order, the analysis of kinship tends to be highly abstract.[2] Within anthropology, the oldest attempt at statistical inference was Tylor's 1889 study of the correlation of rules of residence at marriage with other kinship practices, including types of kinship nomenclature. However, facetious references to kinship studies as "kinship algebra" should not obscure the fact that subsequent decades witnessed very little quantitative analysis, and only lately was it fully realized that considerable fuzziness and ambiguity underlay the seemingly hard data of kinship descriptions. Only in the last few years has it become incumbent upon the field investigator not simply to report, as an example, that such and such a tribe practices patrilocal marriage, but to provide a statistical description of the variety of practices that, in fact, may exist.[3] This new concern with quantification has been associated with a reexamination of many old problems. Tylor's findings on residence at marriage have been restudied, with the observa-

[1] For a summary of recent work see Robert T. Anderson, "Studies in Peasant Life," in B. J. Siegel (ed.), *Biennial Review of Anthropology—1965* (Stanford, Calif.: Stanford University Press, 1965).

[2] For a summary of recent work, see Harumi Befu, "Social Organization," in B. J. Siegel (ed.), *Biennial Review of Anthropology —1965* (Stanford, Calif.: Stanford University Press, 1965).

[3] For example, see A. R. Diebold, "The Reflection of Coresidence in Mareño Kinship Terminology," *Ethnology* 5 (1966), pp. 37–79.

tion that societies usually have alternative or successive rules of residence rather than a single, inviolable practice.[4] At about the same time, the social matrix of matrilineal descent reckoning has been explored as it has not been since Bachofen in 1861 first noted the association of matrilineality with a horticultural economy and a matriarchal political structure.[5] The nature of cousin marriage and its implications for system maintenance, restudied by Lévi-Strauss in 1949, has for some years now been the subject of exchanges that at times rival, in their vituperation, debates on evolution in the nineteenth century.[6] And, most recently, the new empirical rigor has made analysts aware of what should long have been apparent, namely, that a society need not be either patrilineal *or* matrilineal, but may be both at once, or may combine unilineal with ambilineal reckoning.[7]

This renewed exploration of the systemic characteristics of kinship phenomena has been associated with an interest in methodology as such. Mathematical models, the linguistic technique of componential analysis, and computer simulation of the functioning of marriage systems are some of the more striking lines of methodological experimentation.[8] In this, the persistent tendency to highly abstract analysis has continued. For the most part, kinship studies seem always to have had very little to say about communities of real people and the meaning that family life has for them. In this, kinship studies have not been representative of ethnology as a whole, and, even here, an occasional investigation gives hope of the development of this neglected dimension. Francis L. K. Hsu showed the potentialities of this type of work in comparing the structurally similar kinship systems of China and India to reveal how different they are in practice because of differences in value orientations. The Chinese emphasis upon authoritarian modes of behavior contrasts with the Indian focus upon spirituality to make the two systems, so similar in form, thoroughly dissimilar in content.[9] Foster also brings meaning back to kinship studies in postulating the importance for the functioning of a society of the dyadic contract, that choice which an individual may make to develop or to minimize his potentialities for relating to any particular person.[10]

[4] E. B. Tylor, "On a Method of Investigating the Development of Institutions Applied to Laws of Marriage and Descent," *Journal of the Royal Anthropological Institute* 18 (1889), pp. 245–269; P. Carrasco, "The Locality Referent in Reference Terms," *American Anthropologist* 65 (1963), pp. 133–134.

[5] J. J. Bachofen, *Das Mutterrecht* (Stuttgart, 1861); D. M. Schneider and K. Gough (eds.), *Matrilineal Kinship* (Berkeley and Los Angeles: University of California Press, 1961).

[6] Claude Lévi-Strauss, *Les Structures Élémentaires de la Parenté* (Paris: Presses Universitaires de France, 1949); Allan D. Coult, "An Analysis of Needham's Critique of the Homans & Schneider Theory," *Southwestern Journal of Anthropology* 18 (1962), pp. 317–355.

[7] D. Forde, "Unilineal Fact or Fiction: An Analysis of the Composition of Kin-Groups among the Yakö," in I. Schapera (ed.), *Studies in Kinship and Marriage, Dedicated to Brenda Z. Seligman on her 80th Birthday,* Royal Anthropological Institute, Occasional Papers No. 16 (London: Royal Anthropological Institute, 1963).

[8] E. A. Hammel (ed.), *Formal Semantic Analysis,* Special Publication, *American Anthropologist,* Vol. 67, No. 5, Part 2 (Menasha, Wis.: American Anthropological Association, 1965); Dell Hymes (ed.), *The Uses of Computers in Anthropology* (The Hague: Mouton, 1965); H. White, *An Anatomy of Kinship: Mathematical Models for Structures of Cumulated Roles* (Englewood Cliffs, N.J.: Prentice-Hall, 1963).

[9] F. L. K. Hsu, *Clan, Caste, and Club* (Princeton, N.J.: Van Nostrand, 1963).

[10] G. M. Foster, "The Dyadic Contract: A Model for the Social Structure of a Mexican Peasant Village," *American Anthropologist* 63 (1961), pp. 1173–1192; "The Dyadic Contract in Tzintzuntzan, Part II: Patron-Client Relationship," *American Anthropologist* 65 (1963), pp. 1280–1194.

While these developments have taken place in kinship analysis, the turn to complex societies and developing nations has led to new interests in the role of fictive and ritual kinship behavior,[11] in the importance of voluntary associations of various kinds as social alternatives to kinship groups,[12] in the tendency for rational-legal modes of interaction to replace traditional modes,[13] in laws and mores as normative institutions,[14] in the city and urbanization,[15] and in political organization, not only the older, premodern forms of government, but developing, modern ones as well.[16] The continuing study of older problems is joined, in this way, with more or less new lines of questioning about social organization.

[11] For example, see S. A. Freed, "Fictive Kinship in a North Indian Village," *Ethnology* 2 (1963), pp. 86–103; H. Martínez, "Compadrazgo en una Comunidad Indígena Altiplanica," *América Indígena* 23 (1963), pp. 127–139.

[12] For example, see Kenneth Little, *West African Urbanization: A Study of Voluntary Associations in Social Change* (Cambridge: Cambridge University Press, 1965).

[13] For example, see Robert T. Anderson and Barbara G. Anderson, *Bus Stop for Paris: The Transformation of a French Village* (Garden City, New York: Doubleday, 1965); A. Weingrod, "Administered Communities: Some Characteristics of New Immigrant Villages in Israel," *Economic Development and Cultural Change* 11 (1962), pp. 69–84.

[14] Laura Nader (ed.), *The Ethnography of Law*, Special Publication, *American Anthropologist*, Vol. 67, No. 6, Part 2 (Menasha, Wis.: American Anthropological Association, 1965).

[15] For example, see Michael Kenny, *A Spanish Tapestry: Town and Country in Castile* (Gary: Indiana University Press, 1962); Joel Halpern, "Peasant Culture and Urbanization in Yugoslavia," *Human Organization* 24 (1965), pp. 162–174.

[16] Morton H. Fried, "On the Evaluation of Social Stratification and the State," in S. A. Diamond (ed.), *Culture in History* (New York: Columbia University Press, 1960); Lucy P. Mair, *Primitive Government* (Harmondsworth: Penguin Books, 1962).

ECONOMICS

Economic behavior was a backwater of anthropology until the 1950's. With the exception of a few works of broader interest, most of what earlier passed for the anthropological study of economics consisted of no more than factual descriptions of material culture and technology, or of evolutionary theories supported by cultural details selected randomly from the whole range of known cultures to illustrate rather than to develop ideas. The last ten or fifteen years have witnessed the rise of economic anthropology as a major field of specialization with an increasingly sophisticated theoretical orientation and a marked improvement in the techniques and scope of field investigation.[17]

As concerns theoretical orientation, much attention has been given to the question of whether or not theory developed by economists for the analysis of problems in industrial societies can be adapted to the study of primitive and peasant economies. Some have argued that such concepts and definitions have very little or no utility for the anthropologist.[18] Others find that at least some parts are useful.[19] The

[17] For a summary of recent work, see Manning Nash, "Economic Anthropology," in B. J. Siegel (ed.), *Biennial Review of Anthropology—1965* (Stanford, Calif.: Stanford University Press, 1965).

[18] E. E. LeClair, Jr., "Economic Theory and Economic Anthropology," *American Anthropologist* 64 (1962), pp. 1179–1203; C. Meillassous, "Essai d'Interprétation du Phénomène Economique dans les Sociétés Traditionelles d'Autosubsistence," *Cahiers d'Etudes Africains* 1 (1960), pp. 38–67; G. Dalton, "Economic Theory and Primitive Society," *American Anthropologist* 63 (1961), pp. 1–25.

[19] For example, see S. W. Mintz, "Standards of Value and Units of Measure in the Fond des Nègres Market Place, Haiti," *Journal of The Royal Anthropological Institute* 91 (1961), pp. 23–38; E. R. Dean, "Social Determinants of Price in Several African Markets," *Economic Development and Cultural Change*

over-all tendency seems to be

> a growing understanding that parts of economic theory can be incorporated with benefit by anthropologists along with the parallel conviction that much theory- and concept-building must be done to capture the phenomenal world of peasant and primitive economics. . . . The anthropological emphasis on relating economic facts to other social facts will continue to give field reports by anthropologists a different cast or tenor from reports by economists on similar sorts of economies.[20]

Concepts are developed out of empirical studies, and empirical studies have concerned themselves, above all, with problems of economic development. Often, particular institutions provide the focus for research. Much work has especially concentrated upon the market place, whether the local exchange systems of simple, indigenous economies or those which are market-dominated and thoroughly monetized.[21] Others have studied the jajmani system in India, a traditional institution that interlocks farmer, artisan, and purveyor of service (for example, barber or washerman) in a persisting relationship of mutual exchange,[22] rotating credit associations in parts of Asia, West Africa, the Caribbean and the southern United States,[23] or modern institutions for capital formation.[24] Particular interest has attached to the process of monetization, as in the transformation of simple New Guinea villages when their traditional economic structure entered the peripheries of the Western world market.[25]

The literature on economic development has proliferated in recent years. Any statement of general trends is difficult to make. Yet one does detect a widespread search for elucidation of the major variables that affect change, a search that is characterized by a seeking out of ties between economic behavior and the whole range of cultural activity, familial, religious, political, and communal, as well as national and international.

RELIGION

The study of religion, a dominant anthropological concern in the late nineteenth century, has attracted renewed attention in recent years. The older interest in reconstructing the origins and evolution of supernaturalism survives in the work of some.[26] But, for most,

4 (1963), pp. 289–307; F. Barth (ed.), *The Role of the Entrepreneur in Social Change in Northern Norway* (Oslo: University of Oslo, 1964).

[20] Manning Nash, *op. cit.*, p. 125.

[21] For example, see A. G. Dewey, *Peasant Marketing in Java* (Glencoe, Ill.: Free Press, 1962); P. J. Bohannon and G. Dalton (eds.), *Markets in Africa* (Evanston, Ill.: Northwestern Press, 1962).

[22] For example, see P. K. Bhowmick, "Caste and Service in a Bengal Village," *Man in India* 43 (1963), pp. 277–327; P. M. Kolenda, "Toward a Model of the Hindu Jajmani System," *Human Organization* 22 (1963), pp. 11–31; H. Orenstein, "Exploitation or Function in the Interpretation of Jajmani," *Southwestern Journal of Anthropology* 18 (1962), pp. 302–316.

[23] C. Geertz, "The Rotating Credit Association: A 'Middle Rung' in Development," *Economic Development and Cultural Change* 3 (1963), pp. 241–263.

[24] R. Firth and B. S. Yamey (eds.), *Capital, Saving, and Credit in Peasant Societies* (Chicago: Aldine, 1964).

[25] R. Salisbury, *From Stone to Steel: Economic Change Among the Siane* (New York: Melbourne University Press, 1962).

[26] For example, see Mircea Eliade, *Shamanism: Archaic Techniques of Ecstasy*, trans. from the French by W. R. Trask ("Bollingen Series, LXXVI"; New York: Pantheon, 1964); Henry N. Michael (ed.), *Studies in Siberian Shamanism* (Arctic Institute of North America, "Anthropology of the North," Translations from Russian Sources, No. 4; Toronto: University of Toronto Press, 1963); Alois Pache, *Die Religiösen Vorstellungen in den Mythen der formosanischen Bergstämme* ("Studia Instituti Anthropos, Vol. 19"; Wien-Modling: Verlag der Missionsdruckerei St. Gabriel, 1964).

the problem focus has changed greatly. Norbeck sees this newer focus, in part, in the very definition of religion, which for some scholars has shifted from religion defined in one way or another as supernaturalism to religion as "ideals or values, often ethical in nature, that are highly cherished and surrounded by intense emotional feelings."[27] However defined, several trends in problem definition may be noted. In many studies, emphasis rests upon the latent functions of religion for the culture as a whole, for social integration, or for psychological accommodation.[28] To take a single example, a survey of religious as well as nonreligious occasions in Africa in which lewdness, obscenity, theft, aggression, sexual laxity or other deviations from normal practice are periodically permitted, encouraged, or required suggests that such practices function variously to dramatize changes in social status (as at birth, marriage, and death), to lubricate relationships between families, clans, or other social and political groups, or to provide catharsis and self-expression for individuals in otherwise restrictive societies.[29]

Another focus of interest has been upon syncretism of folk beliefs and practices with one or another of the major religions.[30] Thus, in Martinique, traditional South Indian deities are found to have become identified with the Christian hierarchy,[31] while in Mexico, the charisma and powers of a native healer are seen to have continued since his death in 1907 and to have raised him in recent decades to the status of a "folk-saint" within the broader context of Mexican Catholicism.[32] Again, in Burma, Buddhism in the countryside is no longer seen as a mere veneer on practices of spirit worship, but both the world religion and folk belief in Nats are found to constitute a single religious system for the villagers.[33]

This interest in syncretism merges into still another problem area, that of the rise of millenarian movements in various parts of the world as one way in which peoples have attempted to cope with the exigencies of a changing and often threatening world.[34] Others, meanwhile, ask what the priest may do as an active agent for technical development.[35] In religion, as in other subfields of ethnology, a pervasive concern with problems of cultural change tends in-

[27] Edward Norbeck, "The Study of Religion," in Sol Tax (ed.), *Horizons of Anthropology* (Chicago: Aldine, 1964), p. 213.

[28] For example, see J. Roumeguère-Eberhardt, *Pensée et Société Africaines: Essais sur une Dialectique de Complémentarité Antagoniste chez les Bantu de Sud-Est* ("Cahiers de l'Homme, Nouvelle Série III"; Paris: Ecole Practique des Hautes Etudes, 1963); David W. Plath, "Where the Family of God Is the Family: The Role of the Dead in Japanese Households," *American Anthropologist* 66 (1964), pp. 300–317.

[29] Edward Norbeck, "African Rituals of Conflict," *American Anthropologist* 65 (1963), pp. 1254–1279.

[30] For example, see Julio Caro Baroja, *The World of the Witches*, trans. from the Spanish by O. N. V. Glendinning (Chicago and London: University of Chicago Press, 1964); Clifford Geertz, *The Religion of Java* (Glencoe, Ill.: Free Press, 1960).

[31] M. M. Horowitz, "The Worship of South Indian Deities in Martinique," *Ethnology* 2 (1963), pp. 339–346.

[32] Octavio Ignacio Romano V, "Charismatic Medicine, Folk-Healing, and Folk-Sainthood," *American Anthropologist* 67 (1965), pp. 1151–1173.

[33] Manning Nash, "Burmese Buddhism in Everyday Life," *American Anthropologist* 65 (1963), pp. 285–295.

[34] David Aberle, "Millennial Dreams in Action," in S. L. Thrupp (ed.), *Comparative Studies in Society and History*, Supplement II (The Hague: Mouton, 1962); Yonina Talmon, "Pursuit of the Millennium: The Relation Between Religious and Social Change," *Archives Européennes de Sociologie* 3 (1962), pp. 125–148.

[35] D. E. Pfanner and J. Ingersoll, "Theravada Buddhism and Village Economic Behavior: A Burmese and Thai Comparison," *Journal of Asian Studies* 22 (1962), pp. 341–362.

creasingly to include an interest in the practical implications of knowledge gained.

CONCLUSION

In looking briefly in the preceding paragraphs at three broad areas of interest we have neglected other, equally significant fields, such as psychological anthropology, work on the arts and literature, cultural ecology, and linguistics. Yet the three at which we have looked do give one a sense of trends in ethnology as a whole, some of which have been present for decades, others of which have emerged but recently.

The sense that one gets is of old trends persistent with new trends added. The scope of study, which still includes band and village communities, has broadened to include complex, urban-industrial societies. The continued exploration of older problems has been augmented by the study of quite new ones, often deriving out of an increasing concern with rapid social change or from interdisciplinary co-operation. Long-used methods are being updated, and joined by experimentation with new kinds of formal analysis.

The wide range of endeavor that is the consequence of these trends might seem to threaten a fission of ethnology. That such is not the case must be attributed to the persistent validity of still commonly accepted elements of the ethnological approach. However diverse the field, it continues to be characterized by the sharing of comprehensiveness or holism, that ethnological penchant for studying any kind of behavior by placing it in its total context. Field observation and interrogation are still the ethnologist's most productive tools, though appropriate techniques of quantification have been added in response to the demand for harder data. Case studies and the comparative method continue to be vastly more productive and more used than survey research, statistical description, or componential analysis. Only one old trend seems to have completely died out. Cultures are no longer studied as though they were permanent, immutable entities. Although synchronic studies may well be done, the backdrop to all work is an emphasis upon process and change, particularly upon the acculturation of diverse traditions. Cultural change, in this sense, is no longer a specialization within the field. It has become the field.

We have looked at ethnology in the light of published achievements. The result is a picture of a science in good health. On the whole, concepts do not get too remote from facts, method does not get overly separated from theory. There is room for concern, however, in occasional works and minority voices. Efforts to quantify, to utilize mathematical, statistical, and mechanical models—fruitful and appropriate at times—can also be interpreted as part of a movement to fashion ethnology after the image of the natural sciences. This movement seems to be gaining strength in the profession today. The forces favoring it range from the need to compete for status in a science-minded civilization to the preferences of funding agencies for laboratorylike procedures and the wish of individual ethnologists to achieve high levels of accuracy in social prediction. Unrestrained, this tendency could detour ethnologists increasingly to the kind of sterile abstracted empiricism decried by Mills, or to the kind of fruitless imitation of concepts and methods of the natural sciences attacked by Sorokin.[36] Sociology in the twentieth century has wasted much in talent and

[36] C. Wright Mills, *The Sociological Imagination* (New York: Oxford University Press, 1959); Pitirim Sorokin, *Fads and Foibles in Modern Sociology* (Chicago: Henry Regnery, 1956).

time in such detours. Anthropologists who talk about human behavior in similar terms, who look, for example, for something equivalent to atoms in cultural entities, are merely re-entering blind alleys. They are not only practicing poor ethnology, they are imitating outdated physics and unproductive sociology. Harris, for example, works brilliantly and constructively when he investigates a cultural fact in ecological terms.[37] Yet this same author, in a purely theoretical work, falls into older pitfalls that have entrapped other behavioral scientists as he attempts to study culture as built up of "actones," in effect, atoms of behavior, mechanistically defined, and devoid of subjective content.[38] Sociology seems in recent years to be rediscovering its heritage and moving away from such pitfalls as it revitalizes "the sociological imagination." Most ethnologists seem to realize that they have something equally valuable. Wolf refers to it as "the anthropological imagination."[39] This imagination is displayed perhaps nowhere more effectively and sensitively than in Read's study of a New Guinea village.[40] Residing with his villagers, joining in their activities, and sharing in their lives, Read writes without reference to formal analysis, yet conveys an understanding of a people that is provocative and useful because it is done in deeply human terms. Processual analysis, systematic comparison, quantitative inference, model-building—abstract conceptualization in general—are powerful, necessary tools for increasing our understanding of human behavior. The issue is not whether research should depend upon insight and sensitive, humane description or upon abstract description and formal analysis. Both are used and have their place. The issue is whether the dimensions of research shall be human dimensions. The explanatory power of computer simulation, mechanical models, or mathematical formulae is, at best, extremely limited. Culture is a human phenomenon, and, ultimately, it is only in human terms that culture can be understood. Knowing this is what gives creative spark to the anthropological imagination. It remains to be seen whether or not ethnologists will preserve and develop this imagination without a time of wandering in the intellectual desert of a misconceived scientism.

[37] Marvin Harris, "The Cultural Ecology of India's Sacred Cattle," *Current Anthropology* 7 (1966), pp. 51–66.

[38] Marvin Harris, *The Nature of Cultural Things* (New York: Random House, 1964).

[39] Eric R. Wolf, *Anthropology* (Englewood Cliffs, N.J.: Prentice-Hall, 1964).

[40] Kenneth E. Read, *The High Valley* (New York: Charles Scribner's Sons, 1965).

SUPPLEMENT

Recent Trends: Deviant Behavior and Social Control*

By David J. Bordua

THE very title of this subdivision of sociology—deviant behavior and social control—indicates that the two parts are separable but interrelated. It further indicates that a wide variety of specific subject matters can be subsumed under either part. Deviant behavior can, after all, range from public nose-picking to treason. Social control can range from the refusal to reciprocate a dinner invitation to public execution.

To add to the complexity and confusion, several more specific areas of inquiry which at least semantically fall under the heading of deviant behavior have long histories of rather independent status—the study of crime and delinquency, for example.

If we were to adopt the notion that the field of deviant behavior and social control is simply the summation of all the special studies of norm-violating behavior, a summary report would be impossible. If, on the other hand, we were to focus on some special area much at the forefront of current attention, we would run the risk of ignoring significant developments elsewhere. Moreover, the specific empirical research done in any period will heavily reflect social interest in specific forms of deviance as evidenced by the availability of public and private research funds, and may not either reflect or foreshadow significant intellectual developments.

We have tried, therefore, to select a limited set of areas of recent work which constitute new theoretical orientations of likely future interest, which bear on older theoretical developments which are still undergoing evaluation, or which indicate changes in the social objects of research.

The most basic trend in the recent past has been a shift toward more interest in the social control half of the deviance and social control field. This renewed interest has a number of sources and takes a number of forms not all of which can be reviewed here. Broadly speaking, attention has shifted from a focus on the sources and etiology of deviance to the analysis of processes of social control. This separation is, however, tied together by the idea that social control processes are themselves importantly involved not only in the more or less successful suppression of deviance, but in the very processes of defining and producing deviance.

Because of this close interconnection, distinctions within the larger social control emphasis are likely to be arbitrary —and specific labels even more so. Yet

* The help of John P. Clark is gratefully acknowledged. Other commitments prevented us from carrying out our original plan to write the paper jointly.

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some division does exist between recent studies that focus on organized agencies of social control themselves and other work which focuses on the nature and effects of social control in the generation and perpetuation of deviance. Purely for present convenience, we can discuss work on organized agencies, as such, under the heading of social control agencies, and the work on the definition and perpetuation of deviance under the heading of the societal reaction to deviance.[1] One point of contact between these two areas is study of the decision-making processes in formal social control agencies.

If we may be granted this rather arbitrary terminology, the discussion will be divided into two major sections. In the first, we discuss recent work on the societal reaction to deviance. In the second, we focus on study of formal agencies of social control, with main attention to studies of the hitherto neglected police.

SOCIETAL REACTION TO DEVIANCE

There is a long tradition in the sociology of deviance that focuses on the consequences of social control processes for the development of deviance. Indeed, sociologically influenced policy innovations such as the juvenile court were based on the notion that traditional control procedures were not only inhumane but even productive of greater deviance. Given the existence of this tradition, it is rather difficult to properly give credit where it is due. Nevertheless, it seems appropriate to cite the work of Edwin M. Lemert as especially relevant in inspiring more recent developments. This is especially the case as the more recent writers constitute themselves as something of a "school" and acknowledge greater or lesser debt to Lemert.[2]

It is useful to begin presentation of the "societal reaction" school by consideration of a recent book by Kai T. Erikson.[3] Building upon Durkheim's ideas of the functions of deviance in societies, Erikson develops an approach to deviance which stresses the functions of deviance and deviance-definition as central to the maintenance of social boundaries and community identity. A people know whom and what they are by whom and what they condemn. It follows then that a continuing group identity requires a continuing condemnation.

Erikson then applies the perspective to three deviance-defining and (in his interpretation, at least) boundary-maintaining sets of events in the history of the Puritan Commonwealth of Massachusetts Bay. The three examples are the Antinomian controversy involving Anne Hutchinson, the Quaker "invasion," and the witchcraft persecutions. These are cases where either the "norms" were ambiguous or where there was ambiguity about the conforming or deviant status of particular acts and persons, even if norms themselves were more or less clear.

Erikson's discussion of these examples may stand for a general characteristic of the "societal reaction" perspective—it focuses on problems of social ambiguity. Two closely related but separable definitional processes are involved. In the first situation, that of "normative ambiguity," the process of deciding whether a behavior is deviant involves the creation of new norms or the recasting of old norms. A model

[1] This distinction is not likely to be of more than temporary value. Thus, the Department of Sociology at the University of Illinois has a training program with the title, "Research on Operations and Effects of Agencies for Reaction to Behavioral Deviance."

[2] See especially Edwin M. Lemert, *Social Pathology* (New York: McGraw-Hill, 1951).

[3] Kai T. Erikson, *Wayward Puritans* (New York: John Wiley & Sons, 1966). See also an earlier paper by the same author, "Notes on the Sociology of Deviance," *Social Problems*, 9 (Spring 1962), pp. 307–314.

here is the Common Law. In the second situation, that of "behavioral ambiguity," where norms are more clear, the definitional process determines whether an individual or group action is, in fact, that proscribed by the norms.

Where the behavior is fairly ambiguous, a stereotyping process may develop which can in extremes convince not only the conformers but also—to a degree—the "deviants" that they are, in fact, deviant. Thus, in the case of the witchcraft prosecutions not only were observers convinced that the accused were witches, but the accused seemed convinced also. The witchcraft accusations came to have less and less defining criteriality, however, as the finger was pointed at persons more eminent about whom the accusations made much less "sense"—persons whose eminence, we might suppose, provided them not only with social protection from the accusation but also self-protection. They seem to have had sufficient self-esteem to refuse to entertain any self-doubt.

This problem of the behavioral ambiguity of deviance is of especial interest whenever the deviant behavior is attributed to a "condition" of the person whose behavior is under scrutiny, or where the condition, as such, is defined as of basic social concern and the behavior is only an indicator or "symptom" of the condition. This distinction between "conditions" and "acts" is central to much of the societal reaction perspective, especially since social control responses predicated on the idea that there is a "condition" to be discovered in the person may create something like the very condition search for which set off the social control process in the first place.

Because of the interest in the social definitions of conditions rather than merely of acts the societal reaction perspective has led to a few studies of stereotypes and stereotyping processes, essentially a search for the patterns of inference used to assess the existence of deviant "conditions."

There are two levels on which this problem of inference can be approached —on the level of popular stereotypes and on the level of formal or official decision-making. Studies of popular or interpersonal stereotyping of deviants are rare, as compared, for example, with the elaborate literature on ethnic or racial stereotypes. Two recent studies have appeared which indicate beginnings in that direction.[4]

At the level of official decision-making, more work has been done. Some of this will be discussed later in connection with studies of police decision-making with juveniles. Perhaps the most interesting of the recent studies of official decision-making in the context of the societal-reaction approach are in papers by Scheff and by Sudnow.[5]

The study by Scheff is particularly relevant to the raging controversy over the modes of defining mental illness and the appropriate uses of state power in coercing "treatment." Insofar as deprivation of liberty is involved, the ordinarily applicable apparatus is the court, and the ordinary decision-rule is that it

[4] John I. Kitsuse, "Societal Reactions to Deviant Behavior: Problems of Theory and Method," *Social Problems*, 9 (Winter 1962), pp. 247–256; J. L. Simmons, "Public Stereotypes of Deviants," *Social Problems*, 13 (Fall 1965), pp. 223–232.

[5] Thomas J. Scheff, "The Societal Reaction to Deviance: Ascriptive Elements in the Psychiatric Screening of Mental Patients in a Midwestern State," *Social Problems*, 11 (Spring 1964), pp. 401–413. Thomas J. Scheff, "Social Conditions for Rationality: How Urban and Rural Courts Deal with the Mentally Ill," *American Behavioral Scientist*, 7 (March 1964), pp. 21–24. Scheff's work can be more easily assessed in a recent book, *Being Mentally Ill: A Sociological Theory* (Chicago: Aldine, 1966). David Sudnow, "Normal Crimes: Sociological Features of the Penal Code in a Public Defender's Office," *Social Problems*, 12 (Winter 1965), pp. 255–276.

is better to err in letting people go who "should" be confined than to confine people who should be let go.

However, insofar as the decision to confine is contingent upon a medical diagnosis, another procedure and another decision-rule may operate. In medical diagnosis it is better to err on the side of illness than of health. If a person who is really healthy is labeled ill, the usual cost of the error is expense and inconvenience. If however, an ill person is labeled healthy, then the cost may be more serious illness or even death.

Thus, the "judicial" and the "medical" decision-rules are quite opposed. Moreover, procedurally, judicial and medical decision-making differ.[6] In what is by now a quite famous study of psychiatric diagnosis involved in the decision to commit to a state hospital, Scheff discovered that examinations were often perfunctory, conducted in a manner clearly indicating that the decision preceded the examination, and included no mechanisms whereby the patient could reasonably refute the "charge."[7]

Whether the results of Scheff's study would obtain elsewhere is not known. He himself cites a procedure in another state which is legally rather than medically dominated and was a model of due process and careful investigation.[8]

What seems like such slipshod procedure—not to speak of diagnostic arrogance—in the one study is partly due to the presumption on the part of psychiatric and legal decision-makers (the latter rubber-stamping the decisions of the former) that "mental illness" is really an illness like physical conditions, that it will "get worse" if not treated, that effective treatment is possible, and that involuntary treatment is at worst neutral but not harmful. Scheff points out that these presumptions are not necessarily held by many psychiatrists and that they are increasingly being questioned.[9] These presumptions along with the basic medical decision-rule that it is better to make illness-errors constitute a model of one kind of decision process in the handling of deviance. It is, perhaps, better to call it an implicit model since decision-makers may be consciously aware of only parts of it.

Scheff calls these presumptions into question by developing a theory of "being mentally ill." This theory—because it is the clearest presentation in the "societal reaction" school of the etiology of a form of deviance—deserves more extended presentation as an example of the approach. Moreover, presentation of the propositions of the theory coupled with more general discussion of the "societal reaction" approach will help show how the theories of etiology relate to theories of decision-making process.

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[6] Thomas J. Scheff, *On Being Mentally Ill, ibid.*, chap. 4. The problem of explicit as opposed to implicit decision-rules is the subject of elaborate statistical and mathematical discussion. For a relatively nontechnical discussion relevant to deviant behavior see David J. Bordua, *Prediction and Selection of Delinquents* (Washington, D.C.: United States Children's Bureau, 1961).

[7] Thomas J. Scheff, "The Societal Reaction to Deviance: Ascriptive Elements in the Psychiatric Screening of Mental Patients," *op. cit.*

[8] *Ibid.* The due-process implications of substituting professional for judicial decision-making are receiving a great deal of attention not only in the area of mental illness but in general. See Francis Allen, *The Borderline of Criminal Justice: Essays on Law and Criminology* (Chicago: University of Chicago Press, 1964).

It is interesting that as the traditionally legitimated discretionary authority of medical practitioners and others is increasingly called into question, the long-standing but condemned *de facto* discretionary decision-making of the police is becoming more visible and perhaps more legitimated. Cf. Wayne R. LaFave, *Arrest: The Decision to Take a Suspect into Custody* (Boston: Little, Brown, 1965).

[9] Thomas J. Scheff, *Being Mentally Ill, op. cit.*, p. 151.

One is, of course, always tempted to see "schools" where they may not exist, for example, in this loosely akin set of viewpoints which characterizes the work of men like Lemert, Kai Erikson, and John Kitsuse, to which we have already referred, as well as the work of Howard Becker and, to some degree, of David Matza. They may not all accept the labeling label however.[10]

Scheff defines mental illness as "residual rule-breaking," that is, violations of rules which are fundamental to social interaction but not codified. His propositions are as follows.

1. Residual rule-breaking arises from fundamentally diverse sources: organic, psychological, situations of stress, volitional acts of innovation or defiance.
2. Relative to the rate of treated mental illness the rate of unrecorded residual rule-breaking is extremely high.
3. Most residual rule-breaking is "denied" and is of transitory significance.
4. Stereotyped imagery of mental disorder is learned in early childhood.
5. The stereotypes of insanity are continually reaffirmed, inadvertently, in ordinary social interaction.
6. Labeled deviants may be rewarded for playing the stereotyped deviant role.
7. Labeled deviants are punished when they attempt the return to conventional roles.
8. In the crisis occurring when a residual rule-breaker is publicly labeled, the deviant is highly suggestible, and may accept the label.
9. Among residual rule-breakers, labeling is the single most important cause of careers of residual deviance.

[10] Howard S. Becker, *Outsiders* (New York: Free Press of Glencoe, 1963). David Matza, *Delinquency and Drift* (New York: John Wiley & Sons, 1964). For a critique of the labeling school see Jack P. Gibbs, "Conceptions of Deviant Behavior: New and Old," *Pacific Sociological Review* (Spring 1966), pp. 9-14.

It is impossible to present the theory in more detail here. The propositions are discussed and supporting evidence presented in two entire chapters of the book covering seventy-two pages. In any event it is not our concern to evaluate the theory as a theory of mental illness.

The theory displays the basic elements of the "labeling" school approach: an assumption of widespread deviance which is responded to in a variety of ways. Given certain kinds of response the deviance can become stabilized into a deviant role or "career." A few criticisms rather generally applicable to the school can be pointed out.

First, it assumes an essentially empty organism or at least one with little or no autonomous capacity to determine conduct. The process of developing deviance seems all societal response and no deviant stimulus. Second, in the case of mental illness and the Scheff theory specifically, there is no attempt to differentiate the varieties of mental illness. Third, and perhaps most significantly, it locates the fate of the deviant, and indeed his very development, in the acts of the reactors, especially, of course, reactors in positions of power. The labeling perspective need not, but often does, become an ideology of the underdog. Finally, in practice, though not necessarily in principle, there is a strong tendency to look only at the visible end of the selection process, that is, at those cases where the societal reaction seems to be involved in the development of stabilized "career" deviance. Rarely are the successes of social control observed or discussed. As a theory of the etiology of stabilized deviance or as a base for social policy, the "labeling" perspective will be extremely weak, if not positively misleading, until it solves the vexatious methodological problems of longitudinal analysis, taking account

of those cases which do *not* develop into "career" deviants.

In order to do so successfully, the approach will have to pay more attention to variables locatable in the deviant himself or in his prereaction social history.

Sociologists have traditionally served the overdog by providing a sympathetic link to various underdogs, but the details change from period to period. The deviant as underdog seems to be coming into his own, and, correlatively, "due process" seems to be replacing earlier welfare-oriented shibboleths. In any event, it seems easy for this perspective to turn into a kind of witchhunt in reverse—the witches now being the decision-makers rather than the deviants. In the next section our examination of police decision-making with delinquents will indicate how complex matters can be.

We have already mentioned that the most central intellectual ancestor of the "labeling" approach is Edwin M. Lemert. It was he who developed the core concepts of primary and secondary deviance and held out for a view of norm-creating and deviance-labeling that stressed the lack of normative integration of modern society and the opportunity for many diverse and "self-interested" organizations to impose special moral and legal standards on behavior.[11]

In some ways there is a West Coast school (many of whose members were trained elsewhere) and an East Coast school in the analysis of deviance and social control. The Eastern approach, centering on people like Parsons, Merton, and Homans, tends to begin with a model of social order and pose the problem of why there is violation of norms and to be mainly concerned with the problem of social control as part of the interest in the conditions of persistence or equilibrium of social systems. A recent volume of papers, related to Merton's theory of anomie and deviant behavior, reviews—for the most part critically—the relevance of one of the Eastern perspectives on the sociology of deviance.[12] The differences between these schools are not large, and, indeed, except for Lemert, the "labeling" theorists seem to have decided to honor what we have called the Easterners by almost entirely ignoring them. Among the viewpoints that do *not* differentiate these loose groups is the issue of whether deviance is somehow to be located in the individual rather than in social process and social structure. The almost hysterical insistence among the "labeling" theorists that this is a key matter differentiates them largely from some psychiatrists—mainly old-fashioned ones. At least this issue does not differentiate sociologists from each other on principle. As David Matza has pointed out, however, some of the research strategy of sociological positivists implies a view of deviance such as that criticized by the "labelers."[13]

Earlier we presented our view that the "societal reaction" approach concerns itself mainly with areas of ambiguity. We used the term behavioral ambiguity

[11] Edwin M. Lemert, *Social Pathology, op. cit.* For a more recent and more concise statement of Lemert's views, see Edwin M. Lemert, "Social Structure, Social Control and Deviation," in Marshall B. Clinard (ed.), *Anomie and Deviant Behavior* (New York: Free Press of Glencoe, 1964), pp. 57–97.

[12] Marshall B. Clinard (ed.), *Anomie and Deviant Behavior* (New York: Free Press of Glencoe, 1964). This volume is also very useful for other theoretical discussions, an excellent bibliography, and reviews of recent research on gang delinquency, mental disorder, drug addiction, and alcoholism. Talcott Parsons' classic statement is in his, *The Social System* (Glencoe, Ill.: Free Press, 1951), chap. vii. George C. Homans' most succinct discussion is in his, *The Human Group* (New York: Harcourt Brace, 1950), chap. 11.

[13] David Matza, *Delinquency and Drift* (New York: John Wiley & Sons, 1965), esp. chap. 1.

to refer to situations where the norms were relatively clear but there was difficulty in determining whether a particular act was prohibited. The societal reaction approach has also called attention to the nature and consequences of normative ambiguity and especially to the processes whereby norms are created in modern society.[14]

Ours is an age, of course, of conscious norm-making, through law mainly, but also heavily through rules of formal organizations. Ours is also an age of pressure politics, and norm-making through law is often the consequence of successful use of the lawmaking process by pressure groups.

Howard S. Becker has coined the term "moral entrepreneurs" to denote persons or groups who take on themselves—for whatever motives—the task of securing the prohibition of particular behaviors.[15] Such moral entrepreneurs may be either public or private groups. Becker describes the elaborate and successful campaign of the Federal Bureau of Narcotics to secure passage of the Marijuana Tax Act. The campaign included not only the usual lobbying and testimony before congressional committees, but also a program of propaganda designed to inflame public opinion against "dope fiends."[16]

SOCIAL CONTROL AGENCIES: THE POLICE

The police, of course, make many decisions in the processing of deviants—juvenile and adult. It is useful to focus discussion of recent studies of the police by taking up a branch of research closely related to the decision-making studies emphasized by Scheff and others. Considerable attention has been paid recently to studies of police decision-making with juveniles, and it is to this material that we will soon turn. Decision-making with respect to juveniles—as complex as it turns out to be—is, however, only one of the kinds of decisions made by police. In a recent book on a municipal police department, Jerome H. Skolnick analyzes a variety of law-enforcement situations.[17]

Police discretion is of concern not only to the sociologist of deviance or the sociologist of legal process, but also to the newly social-research-oriented legal scholar. The recent work of LaFave represents the most thorough and valuable work from the side of sociolegal scholarship.[18] These studies have been of discretionary decision-making by the municipal police. Only one comparable study exists of a state police unit, and it is valuable not only because of its attention to problems of decision-making in a context not covered in other studies—highway traffic control—but also because it presents an analysis of a quite differently organized kind of police unit.[19] The Preiss and Ehrlich analysis proceeds from a complex version of role theory which in itself need not concern us, but the perspective led to a discussion of the relations of organizational structure, and processes of recruitment and training to decision-making.

[14] They are by no means alone or even prominent in doing so. At least as significant has been the dramatic development of interest in the sociology of law in American sociology in the last decade. See Jerome H. Skolnick, "The Sociology of Law in America: Overview and Trends," in *Law and Society*, a supplement to *Social Problems*, 13 (Summer 1965), pp. 11–39.

[15] Howard S. Becker, *The Outsiders* (New York: Free Press of Glencoe, 1963), chap. 8.

[16] *Ibid.*, pp. 135–146.

[17] Jerome H. Skolnick, *Justice Without Trial: Law Enforcement in Democratic Society* (New York: John Wiley & Sons, 1966).

[18] Wayne R. LaFave, *Arrest: The Decision to Take a Suspect into Custody* (Boston: Little, Brown, 1965).

[19] Jack J. Preiss and Howard J. Ehrlich, *An Examination of Role Theory: The Case of the State Police* (Lincoln: University of Nebraska Press, 1966).

The relationship of police and community and links to police organization are the focus of a recent comparative study of Scottish and American police by Michael Banton.[20] Public attitudes toward police and police response thereto have also been the subject of a number of studies. A recently published one compares British survey results with surveys in three middle-sized American cities.[21]

These and other topics—police decision-making, the relations of police organization to community environment, the development of modern police, changes in the organization and internal control of police departments, and the police role as it relates to recruitment and training—are dealt with in a collection of essays on the police scheduled to appear in early 1967.[22]

Of particular significance for the sociology of police are the problems of variations among police departments and changes in police organization over time. These have been the focus of two especially influential papers by James Q. Wilson, one published and the other soon to appear.[23] Both change and variation involve significant differences in the processes of command and control in police departments. These processes are the subject of a recent article which examines them in the context of police modernization, police deployment patterns, occupational culture, and variations in the structure of civilian control over the police.[24] Police bureaucratization as it relates to the legal and political structures of different societies, the sensitivity of regimes to politicized violence, and the capacity of the police to behave legally in conditions of community conflict is treated in an article in the forthcoming new edition of the *International Encyclopedia of the Social Sciences*.[25] In another paper Allan Silver deals with the establishment of modern police in Britain with especial attention to the need for a nonmilitary body to intervene between threatened elites and the "dangerous classes."[26]

DECISION-MAKING WITH JUVENILES

While there has been considerable speculation over the years as to the criteria used by police in making dispo-

[20] Michael Banton, *The Policeman in the Community* (New York: Basic Books, 1965).

[21] John P. Clark, "Isolation of the Police: A Comparison of the British and American Situations," *Journal of Criminal Law, Criminology and Police Science*, 56 (1965), pp. 307–319. Two classic articles are William A. Westley, "Violence and the Police," *American Journal of Sociology*, XLIX (August 1953), pp. 34–41; and the same author's "Secrecy and the Police," *Social Forces*, XXXIV (March 1956), pp. 254–257. The most elaborate opinion survey is British. See Royal Commission on the Police, "Relations Between the Police and the Public," Appendix IV to the Minutes of Evidence. Prepared by R. Morton Williams (London: Her Majesty's Stationery Office, 1962). For an insightful comparison of British and American public attitudes as they relate to police culture see Jerome H. Skolnick, *op. cit.*, chap. 3.

[22] David J. Bordua (ed.), *The Police: Six Sociological Essays* (New York: John Wiley & Sons, in press).

[23] The published paper is James Q. Wilson, "The Police and Their Problems: A Theory," *Public Policy*, XII (1963), pp. 189–216. The unpublished paper by the same author is "The Police and the Delinquent in Two Cities." It is scheduled to appear in a volume on delinquency control, edited by Stanton W. Wheeler, to be published by John Wiley & Sons.

[24] David J. Bordua and Albert J. Reiss, Jr., "Command, Control and Charisma: Reflections on Police Bureaucracy," *American Journal of Sociology*, 72 (July 1966), pp. 68–76. See also Albert J. Reiss, Jr. and David J. Bordua, "Organization and Environment: A Perspective on the Municipal Police," in David J. Bordua (ed.), *The Police: Six Sociological Essays, op. cit.*

[25] David J. Bordua, "Police," *International Encyclopedia of the Social Sciences* (forthcoming).

[26] Allan Silver, "On the Demand for Order in Civil Society," in David J. Bordua (ed.), *The Police: Six Sociological Essays, op. cit.*

sition decisions with juveniles, it was not until a study by Nathan Goldman in four communities near Pittsburgh, originally conducted in 1950, that any serious empirical work was done.[27] Since that time a number of other studies directly on the subject have appeared.[28] In addition, at least two studies have appeared which include considerable related material.[29]

Goldman's early study was mainly concerned with discovering sources of bias in criminological statistics rather than with the decision-making process itself. It also showed a concern with the problem of socioeconomic bias in police decision-making. We shall not follow out the interest in criminal statistics but will revert to the theme of socioeconomic bias.

[27] Nathan Goldman, *The Differential Selection of Offenders for Court Appearance* (Washington, D.C.: National Research and Information Center and National Council on Crime and Delinquency, 1963).

[28] A. W. McEachern and Riva Bauzer, "Factors Related to Disposition in Juvenile Police Contacts," in Malcom W. Klein and Barbara G. Meyerhof (eds.), *Juvenile Gangs in Context: Research, Theory, and Action*, University of Southern California Youth Studies Center, 1963 (Mimeo.); Irving Piliavin and Scott Briar, "Police Encounters with Juveniles," *American Journal of Sociology*, LXX (September 1964), pp. 206–214; George E. Bodine, "Factors Related to Police Dispositions of Juvenile Offenders," Syracuse University Youth Development Center (Paper read at the annual meeting of the American Sociological Association, Montreal, Canada, August 31, 1964); Robert M. Terry, *The Screening of Juvenile Offenders: A Study in the Societal Reaction to Deviant Behavior* (Unpublished Ph.D. Dissertation, University of Wisconsin, 1965).

[29] Charles R. Guthrie, *Law Enforcement and the Juvenile: A Study of Police Interaction with Delinquents* (Unpublished Ph.D. Dissertation, University of Southern California, 1963); William W. Wattenberg and Noel Bufe, "The Effectiveness of Police Youth Bureau Offices," *Journal of Criminal Law, Criminology, and Police Science*, 54 (December 1963), pp. 470–475.

In his later interpretation of the study results, Goldman arrived at the following conclusions. Decision-criteria close to the contact situation which seemed to affect dispositions were seriousness of the offense and race, age, and sex of the offender. Negroes and older boys and girls were more likely to be referred to court. Goldman also points out that these criteria interact. Thus, differential referral of Negroes seems confined to minor offenses.

Goldman also was able to analyze variations among the communities studied. Among the most interesting findings was the fact that court referral rates varied from 9 per cent to 71 per cent. Looked at in terms of release rather than referral—a perspective we shall employ later—the police departments in Goldman's study let go from 29 per cent to 91 per cent of the juveniles they took into custody.

McEachern and Bauzer found that offense seriousness, length of previous record, ethnic origin, sex, age, intactness of family, and probation status were all related to police dispositions. There were important interactions between these variables so that when offense is held constant the effects of family intactness, ethnicity, and sex are eliminated, and the effects of previous record and probation status are reduced. The effect of age remains the same.

Controlling for the effects of offense category increased the effects of the year in which the police contact occurred, of department differences, and of differences in court referral rates between individual officers.[30]

In his study in Syracuse, Bodine discovered an even more complex picture. He was particularly concerned with the relationship of income area to type of disposition. After a fairly complex mul-

[30] A. W. McEachern and Riva Bauzer, "Factors Related to Disposition in Juvenile Police Contacts," *op. cit.*

tivariate analysis, the findings included the following.

1. A relationship between arrest history and disposition.
2. A relationship between arrest history and income level.
3. An interrelationship such that juveniles from low income areas committed a disproportionate share of those offenses likely to lead to referral (theft offenses).
4. After arrest history and offense type were taken into account, age was not a discernible factor in dispositions.
5. Variation between income areas was not due to race.

Bodine further concludes:

Juveniles from low income areas have a higher referral rate to court than juveniles from high income areas for two reasons: low income youth are more often apprehended as repeating offenders, and repeating offenders have a referral rate which is twice as great as the rate for initial offenders; low income youth have a higher arrest rate for petty theft and petty thieves in general, and low income petty thieves in particular, have a higher court referral rate.[31]

One reason for the peculiar significance of petty theft in Bodine's findings was that this offense category included thefts from parking meters, which were invariably referred to court. Juveniles from low-income areas committed a large number of these offenses.

If we put together the findings of McEachern and Bauzer and of Bodine we find that offense type, arrest record, probation status, age, department, and officer all seem to affect disposition. Of the factors common to these studies and also in Goldman's, offense and previous record seem most securely established.

In a more recent study in Racine, Wisconsin, Terry found that offense, previous record, and age held up as correlates of disposition-decision out of twelve factors studied. Terry points out that his results imply a rather "legalistic" handling of juveniles and also that the much claimed socioeconomic bias of the police simply does not appear.[32]

Terry further makes the interesting observation that:

the police appear to be remarkably lenient with juvenile violators. Even for the most serious types of offenses, the juvenile stands a relatively good chance of being released without further action.[33]

Armed with at least one version of the societal reaction perspective—which often carries with it an ideology favoring the deviant underdog—Terry seems surprised to discover leniency rather than severity, legality rather than bias. He should, perhaps, not have been surprised. Over the study period (1958–1962) the Racine police released in 88.8 per cent of the offenses.[34] Surely, in order for socioeconomic bias to appear, it would have to be monumental since after all the police must pay *some* attention to the law.

The studies by McEachern and Bauzer, Bodine, and Terry are the best available, and with some differences in detail they add up to what Terry calls a "legalistic" picture with little or no evidence of socioeconomic bias. These studies are, however, all statistical, all carried on at the "juvenile bureau" level of decision-making, all deal with formal records and, finally, all represent at least fairly high-caliber police departments.

Another study, by Piliavin and Briar, attacks the problem from a different vantage point. The authors stress the significance of the demeanor of juve-

[31] George E. Bodine, "Factors Related to Police Dispositions of Juvenile Offenders," *op. cit.*, p. 14.

[32] Robert M. Terry, *The Screening of Juvenile Offenders: A Study in the Societal Reaction to Deviant Behavior, op. cit.*, pp. 104–106.

[33] *Ibid.*, pp. 105–106.

[34] *Ibid.*, p. 72.

niles as a set of cues used by police to make decisions. The authors conclude that demeanor is especially important in cases of first or minor offenders. Racial imbalance in the severity of police decisions is attributed to the fact that Negro boys often behave in such a way that police are more likely to be strict. While the authors do not systematically say so, it seems that a large part of their observations were of street behavior rather than of decisions at the juvenile bureau level. Only sixty-six cases are reported, and it is not possible to assess the over-all significance of the demeanor-variable in the total of decisions made by the police. Nevertheless, this study does provide some indication that, at the street-patrol level, other factors quite different from those previously discussed may be important.[35]

The patrol police differ from juvenile officers in at least three main respects. They are more offense-oriented, especially toward offenses constituting forms of public disorder. They are more often charged with the job of maintaining pressure on suspected offenders in high crime areas under police doctrines of aggressive patrol. Most significantly, they must maintain respect for police authority even when dealing with gang boys whose morale may derive largely from successful baiting of the police.[36]

Juvenile officers tend to be offender-oriented and, indeed, perform a quasi-judicial role not unlike that of state's attorney.

Some of the disagreement among the studies reviewed may be due to stage in the decision chain on which the research concentrates. Police decision-making at different stages in the chain operate under different role pressures.

A quite provisional clue that some of the "on-street" factors may operate at the disposition stage, however, is available from an as yet incomplete study of disposition decisions in Detroit. Officers in the Detroit Youth Bureau filled out a form on first offenders which included an item called "Attitude Toward Officer." The categories and percentage on whom court petitions were filed are: Honest, 67 per cent; Responsive, 70 per cent; Evasive, 78 per cent; Anti-Social, 80 per cent.[37]

Concern for stage in the decision chain leads naturally to concern for the ways in which the decision chain is organized and variations between departments and over time in the same department. As previously mentioned, McEachern and Bauzer have reported important variation in court referral rates in Santa Monica over a twenty-year period. Figures for Detroit for the period 1951–1964 show a steady increase in rates of referral to court from 44 per cent in 1951 to 80 per cent in 1964.

Not only are there dramatic changes in at least some departments over time,

[35] Irving Piliavin and Scott Briar, "Police Encounters with Juveniles," *American Journal of Sociology*, LXX (September 1964), pp. 206–214. See also Charles R. Guthrie, *Law Enforcement and the Juvenile: A Study of Police Interaction with Delinquents, op. cit.*, for evidence that poor demeanor on the part of the juvenile may be induced by the language and manner of the officer.

[36] In another report from the same research project, gang boys are described as being aware that the patrol police may take them in for what amounts to inappropriate demeanor toward officers only to have the juvenile officer release them. See Carl Werthman and Irving Piliavin, "Gang Members and the Police," in David J. Bordua (ed.), *The Police: Six Sociological Essays, op. cit.*

[37] The study involves a sample of 10,000 contacts with boys over the period 1952–1961 and is being conducted by David J. Bordua and James W. Harris. The concern for organizational variation which has developed out of the study is discussed in "Police Decision-Making with Juveniles," read before the Midwest Sociological Society, Madison, Wisconsin, April 22, 1966.

but great variation among departments. A review of studies covering some thirteen communities or groups of communities reveals a range of court referral rates by police running from a low of 9 per cent in what Goldman calls Manor Heights to the 80 per cent figure for Detroit in 1964.

In addition to the problem posed by decision stage, this amount of organizational variation indicates that understanding of police decision-making is not likely to be furthered as much by more microscopic studies of decisions within single departments as by attempts to deal with the organizational variation directly. In a study just getting under way, an attempt is being made to relate differences in juvenile release ratios initially to variations in the social characteristics of communities and later to variations among departments.

Individual police agency data secured from the Uniform Crime Reports Section of the Federal Bureau of Investigation indicate that the degree of variation observed in published studies holds true when a much larger number of departments is considered.[38]

Elements of an interpretive scheme for analyzing organizational variation are available in Goldman's discussion of differences between the communities he studied, in a paper by James Sterling, and most importantly in the as yet unpublished paper by James Q. Wilson previously cited.

In commenting upon the variations reported by Goldman, Sterling suggested that the presence or absence of a specialized juvenile bureau with an organizational existence, definition of mission, and *esprit* of its own would account for the differences.[39]

Wilson's paper goes much farther and constitutes the most promising perspective currently available. In comparing what he calls Western City and Eastern City, Wilson summarized several departmental characteristics under the typological labels "professional" and "fraternal." Briefly put, the professional Western City department is highly centralized and staffed largely by nonresidents with high levels of education. Its juvenile officers are organized in a single central bureau and have much interaction among themselves and little with outsiders. The fraternal Eastern City department is "old style." It is markedly decentralized. Juvenile officers are part of the precinct complement and may spend their entire careers in the same precinct—it may, indeed, be the precinct in which they grew up.

In Western City the professional officers invoke universalistic criteria, arrest a larger share of the juveniles they process, and release 53 per cent. Moreover Wilson's data indicate no selective bias on socioeconomic grounds. In Eastern City the fraternal officers arrest fewer of the juveniles they process and release 70 per cent. Moreover, the gross referral rate for Negroes is 43 per cent as compared to 16 per cent for whites. This difference persists when offense is controlled, though the sample of cases is small.[40]

Wilson's analysis is too complex to pursue further, but it seems clear that the combination of community and organizational characteristics is even more complicated than his paper states. It

[38] The study is being carried out by Robert E. Ford. In reports for 1965 on 2,369 police agencies, 385 release fewer than 5 per cent of juveniles taken into custody, while at the other extreme 60 agencies release more than 95 per cent. Every other 5 per cent interval contains at least 57 agencies.

[39] James W. Sterling, "The Juvenile Offender from Community to Court: Two Stages of Decision," paper read before the Illinois Academy of Criminology, November 31, 1962. Lieutenant Sterling is with the Youth Division, Chicago Police Department.

[40] James Q. Wilson, "The Police and the Delinquent in Two Cities," *op. cit.*

also seems clear that the meaning of specific correlates of police disposition decisions will vary greatly from place to place and from time to time.

POLICE DISPOSITIONS AND THE SOCIETAL REACTION SCHOOL

From the material on police decisions with juveniles it is possible to draw some further implications for the societal reaction or "labeling" approach to deviance. In doing so it will be useful to look at a few additional figures from Detroit.

For the year 1964 the Detroit Police Department reported 106,000 total "encounters" with juveniles. The Youth Bureau reported 34,109 "interviews" with boys. The Youth Bureau recorded 9,445 "official contacts" with Detroit boys. These official contacts involved 5,282 individuals. Of the 34,109 interviews conducted by Youth Bureau officers 10,157 were with boys not involved in delinquency but interviewed in the course of investigating complaints.[41]

Raw figures of this sort are, of course, notoriously difficult to understand. They do, however, indicate at least plausibly several things. First, the Detroit police do *not* seem eager to "pull kids in." Indeed, it is their stated policy to avoid involving juveniles in the legal apparatus whenever possible. Second, given the volume of business with juveniles, it is just as plausible to suppose that it is the level and frequency of deviance which determines the degree of police processing rather than the reverse. This is at least compatible with the findings thus far with respect to youth officers' decisions to refer to court.

Third, the idea that deviance is definable only in terms of societal reaction should be distinguished from the idea that deviants are defined by societal processes. This distinction between norm-making, deviance-defining, and deviant-labeling, not always made by the societal reaction school, is closely related to our earlier distinction between normative and behavioral ambiguity.[42]

Finally, such figures lead to an obvious problem which tends to be scanted by the societal reaction people. Is not the typical funnel-shaped selection process illustrated by these Detroit figures a consequence of the fact that social control efforts that work with most fail with a few? Is it not plausible to look at these figures as showing not or at least not only that the social control process is producing deviance by developing stabilized deviants but that it is also reducing deviance through the deterrent effect of control efforts?

The societal reaction approach as we have mentioned pays little attention to the successes of social control, only to the failures—if by success we mean either the prevention or reversal of deviant careers or the reduction of behavioral deviance through the symbolic effects of the way in which more serious deviants are treated. The processes which produce stabilized deviants may be precisely the ones which reduce deviance in the population as a whole. This is, of course, an old idea and is implicit in Erikson's argument about boundary maintenance. Boundary maintenance may be effective to the degree that it creates the "outsiders" with whom Becker is concerned. Thus, the function-

[41] The data on Youth Bureau Operations are from Detroit Police Department Youth Bureau, *Annual Report for 1694*. The figure for department encounters was provided in a personal communication by then Inspector Robert Potts.

[42] See Jack P. Gibbs, "Conceptions of Deviant Behavior: The Old and the New," *op. cit.*, for a critique which takes up some of these same points from a somewhat different perspective.

alism of Erikson accords ill with the antifunctionalism of others in the labeling tradition. The contradictions are not clear, however, until one complements the "career"-oriented labeling perspective with the social-system-oriented perspective more apparent in others.

It is not necessary to argue that the decision process *necessarily* (though it may) makes ritual scapegoats out of a few more or less randomly chosen norm violators.

All of this is not intended to urge a pollyanna perspective on police decision-making. Nevertheless, it does serve to highlight weak points in the general labeling orientation which should be considered along with its strength.

One of the strong points of the perspective, as we have pointed out, is that it helps focus research attention on decision-making and the sources of variation in decision-making. Scheff's work is especially noteworthy here. His model of the presumptions underlying the decision to commit for treatment may be called a "well intentioned treatment" model. One of its basic features is the idea that treatment is valuable and more people need it than are getting it.

Broadly speaking, a police juvenile unit with a selective process such as that illustrated by the Detroit figures or by Terry's report of Racine seems to operate on the basis of what might be called a "well intentioned punishment" model. The police believe in punishment as the proper response to crime but define it as unpleasant and something a large part of the juvenile population should be spared. The basic principle according to which specialized juvenile units were originally organized was that keeping juveniles out of the legal apparatus was much to be desired. Further work on such implicit or explicit models of the decision process would seem a promising avenue of future development.[43]

This kind of analysis of variation both in decision ideologies and also in the effects of different ways decision processes are organized would help correct some of the ideological one-sidedness apparent in the labeling perspective. One can hardly fault a concern for social justice, yet some of these writers not only seem in a state of continual outrage, but also seem about to substitute a naïve view of justice derived from eighteenth-century legal theory for the naïve "therapeutic" views which they criticize.[44]

Thus, Terry's study in Racine is marred not only by the failure to think through the implications of the 89 per cent release rate, but by the failure to consider until after the data were in and analyzed that the police in Racine might be playing the game straight. Indeed the penchant for criticism (perhaps especially of the police who have never been the symbolic favorites of sociologists) can be so great that decision-makers are damned whatever they do. When he discovers that the juvenile officers seem to behave rather "legalistically," Terry criticizes them by invoking more "therapeutic" standards derived from statements of the United States Children's Bureau.[45] He seems unaware that being more "therapeutic" would necessarily introduce many of those elements of doubtfully legitimate selectivity that he failed to find in Racine.

[43] See David Sudnow, "Normal Crimes: Sociological Features of the Penal Code in a Public Defender's Office," *op. cit.*

[44] David Matza's highly regarded discussion of the sense of injustice as it relates to the subculture of delinquency should be read in this light. See David Matza, *Delinquency and Drift, op. cit.*, chap. 4.

[45] Robert M. Terry, "The Screening of Juvenile Offenders: A Study in the Societal Reaction to Deviant Behavior," *op. cit.*, p. 105.

The labeling perspective can, under at least some circumstances, lead to a naïve perspective on the great human problem of the balance between order and justice. Some of the recent work by sociologists on the police is couched in terms of this dilemma.[46]

Jurisprudence constitutes, however, the largest reservoir of thought on such matters, and it may not be amiss to conclude this brief paper with a quotation indicative of a view more balanced than some we have considered.

> Where the early surveys (of the administration of justice) seemed to assume that the ideal system was one in which all suspects are arrested, prosecuted, convicted, and sentenced, we assume that the ideal is one where intelligent and consistent decisions are made as to who, among even the clearly guilty, will be arrested, prosecuted, convicted and sentenced. The aim is not, in other words, statistically measurable efficiency but rather a more difficult to measure, intelligent and responsible exercise of discretion.[47]

[46] See Jerome H. Skolnick, *Justice Without Trial: Law Enforcement in Democratic Society, op. cit.*, esp. chap. 1. Also see David J. Bordua (ed.), *The Police: Six Sociological Essays, op. cit.*, especially the chapter by Albert J. Reiss, Jr. and David J. Bordua, "Environment and Organization: A Perspective on the Municipal Police," and the chapter by John H. McNamara, "Uncertainties in Police Work: The Relevance of Recruits' Backgrounds and Training."

[47] Frank J. Remington, in Editor's Foreword to Wayne R. LaFave, *Arrest: The Decision to Take a Suspect into Custody, op. cit.*, p. xvii.

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INTERNATIONAL RELATIONS

ARNOLD L. HORELICK and MYRON RUSH. *Strategic Power and Soviet Foreign Policy.* Pp. xii, 225. Chicago: University of Chicago Press, 1965. $5.95.

Strategic Power and Soviet Foreign Policy addresses the vexing question of whether nuclear weapons can be politically useful even if they are never used. It examines, systematically, the Soviet efforts to exploit nuclear strategic power politically during the 1958–1962 diplomatic offensive against the West. Despite the difficulties encountered in the political use of strategic forces, the Soviet leaders have tested this political tool. What the Soviet leaders have learned may very well influence the choices that the Soviets are now making regarding their future strategic forces. And, according to the authors, "the fate of mankind may depend on their choice."

Horelick and Rush contend that in 1957 the Soviet leaders began a deliberate campaign to deceive the West regarding Soviet strategic capabilities. In retrospect, it is now known that the Soviet Union had, by 1961, deployed only "a handful" of its awkward first-generation Intercontinental Ballistic Missiles (ICBM). For a number of reasons the United States estimates of Soviet ICBM deployment ran ahead of the actual program. The authors state: "the logical progression of Soviet claims, particularly those regarding the production status of the ICBM, as well as the internal consistency of the claims made possible by tight official control of Soviet communications media, was also helpful in inducing credibility."

Chapter 6 is devoted to the U-2 affair and its aftermath. "In the wake of the U-2 incident, Khrushchev's references to Soviet strategic rocket capabilities fell far short of his extreme claims of late 1959 and early 1960." By 1961, the myth of the United States missile gap had been eliminated. No longer claiming "superiority," the Soviets indicated their willingness to accept strategic "parity," invoking the principle "that equal strategic forces should be translated into equal political rights."

Part Three of the book deals with strategic power in Soviet foreign policy, particularly with the political offensive against Berlin and the Cuban missile crisis. The net result of the Soviet missile ploy into Cuba was that "the United States had regained confidence in its strategic superiority and had wrested the initiative from the Soviet Union."

To this reviewer, the most significant portion of this book is Part Four, "Soviet Strategic Choices and Their Political Implications." The Soviet strategic postures that the authors analyze range from "continued acceptance of strategic inferiority, through strategic parity, to postures that might confer some ambiguous forms of strategic superiority." As of now, the Soviets have

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INDUSTRIAL *and* LABOR RELATIONS REVIEW

In the January 1967 issue:

The Role of State Agencies in Public Employee Labor Relations	*Jean T. McKelvey*
Unionism, Concentration, and Wage Changes: Toward a Unified Theory	*Harold M. Levinson*
Determinants of the Structure of Industrial Type Internal Labor Markets	*Peter B. Doeringer*
The Development of Labor Peace in the Port of Boston	*Francis M. McLaughlin*
A Cross-Sectional Analysis of Labor-Force Participation Rates in Michigan	*Peter S. Barth*
Arbitration of New Contract Wage Disputes: Some Recent Trends	*Richard Ulric Miller*
The Mine Workers' Welfare and Retirement Fund: Fifteen Years' Experience	*Robert J. Myers*
Unemployment and the Labor-Force Participation of Secondary Workers	*Glen G. Cain*

Published quarterly by the New York State School of Industrial and Labor Relations, Cornell University, Ithaca, New York 14850.
Single copies: $1.75 **Year's subscription: $6.00**

to live with the condition of strategic inferiority. The authors recognize that the Soviet Union's difficulty in achieving strategic parity, "not to speak of some form of superiority, depends in no small degree on the magnitude and success of countervailing efforts of the United States."

Strategic inferiority compels the Soviet Union leaders to act cautiously in foreign policy. The Soviet leaders, however, have made every effort to avoid the appearance of inferiority, "short of actually procuring the necessary strategic forces." The authors suggest a number of motivations that might lead the Soviets into programs designed to overcome their strategic inferiority. They also recognize that unforeseen technological developments might reduce the costs of "catching up" so that the Soviet leaders might find "irresistibly attractive the prospect of strategic parity or superiority."

The authors define "strategic parity" to mean "the political parity of strategic forces: it is a condition in which the Soviet strategic forces are sufficient to deprive even a more powerful American strategic force of its political usefulness." It is interesting to observe that Soviet leaders have claimed the existence of a kind of parity since 1960. Many strategists in the West seem to see some advantage in actual parity. As to this point the authors observe: "The stabilizing and politically equalizing effects of United States strategic superiority are often overlooked by those who contend that strategic parity is a precondition for reaching a stable understanding with the Soviet Union and ending the cold war." They further suggest that "the advent of a mutually acknowledged state of strategic parity would signify to the Soviet leaders a major improvement in the relative strategic position of the U.S.S.R. and a deterioration in that of the United States." According to the authors, if ever the Soviets seek superiority, "the difficulties the Soviet leaders would face in trying to gain credit for strategic superiority are considerable, and they might prove insuperable."

The authors believe that strategic superiority has always been attractive to Soviet leaders, but that it is impossible for the Soviet Union to acquire clear-cut, unequivocal superiority. They note that some Western strategists contend that decisive strategic superiority is no longer attainable, "lesser forms of superiority are meaningless (not credible), wasteful ('overkill'), and potentially dangerous (provocative)." These contentions notwithstanding, the authors suggest that "there is historical evidence suggesting that the Soviet leaders would value highly the political advantages conferred by ambiguous forms of strategic superiority, even though they fell far short of a manifest capability to strike first without suffering substantial damage in retaliation."

Strategic Power in Soviet Foreign Policy makes an important contribution to our understanding of the esoteric relationship that exists between strategic forces and Soviet foreign policy. This book is must reading for anyone who is concerned with the political interaction of the two superpowers.

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GEORGE H. QUESTER. *Deterrence before Hiroshima: The Airpower Background of Modern Strategy*. Pp. xiii, 196. New York: John Wiley & Sons, 1966. $6.95.

This excellent book, drawn from a doctoral dissertation, seeks to refute the frequently encountered assertion that nuclear weapons have rendered strategic thought before 1945 virtually irrelevant to our present condition. Quester argues that from almost the time of the first military aircraft, airpower was believed to have that capacity for apocalyptic destruction which in fact it did not possess until 1945; but because men believed that airpower could create a holocaust of intolerable dimensions, their thought about how to deter or limit its use anticipated early the strategic thought of the nuclear era. He demonstrates that the main arguments and even the vocabulary of post-1945 strategic debate can be found frequently in discussions of airpower sometimes as far back as the eve of World War I. Unhappily, he also demonstrates that

ideas of deterrence very like our own consistently failed to impose limits upon airpower in action. Instead, he finds in both world wars a melancholy cycle in which supposed deterrents provoked pre-emptive actions which led to retaliation and the collapse of restraints.

So in 1914 British airplanes undertook pre-emptive strikes against German zeppelin bases. Along with the blockade the pre-emptive attacks helped provoke the Germans into using their dirigibles to bomb England. Restraints imposed by the Kaiser and the chancellor combined with weather and primitive technology to keep German attacks on the civilian population to a sporadic minimum, but their limited attacks goaded the British into planning an indiscriminate bombing campaign against German cities. The war ended before that campaign could get well under way, but the plan for it was a foundation of interwar speculation about the potential of strategic airpower. Such thought soon envisioned apocalyptic holocausts, whereupon some Britons began reflecting that they themselves might be the recipients of strategic bombing campaigns and that their island was peculiarly vulnerable. From such reflections there grew consideration of possible deterrents, which included such sophisticated notions as that of Great Britain's refraining from bombing an enemy's cities while retaining a second-strike capacity that would permit the complete destruction of those cities if she chose; thus she might establish a "no-cities" understanding that would save crowded London.

After Hitler came to power, the world believed it was on the verge of the aerial disasters that the imagination of the 1920's and early 1930's had conjured up. When Hitler protested that he himself desired a "no-cities" bombing policy, he was not taken as seriously as he should have been; he meant it, because the Luftwaffe was designed for tactical air support, and because remembering World War I he feared the effects of city bombing on German popular morale. He did not bomb French cities in 1940—in Holland, Rotterdam was part exception, part Allied exaggeration—and his raids on England were directed initially against British military and especially air installations. But when Hitler's attacks on the Royal Air Force approached success, the British in desperation lashed out to bomb Berlin, provoking the Germans into bombing London, and the "no-cities" plan proved unable to override one of the belligerents' fears for national survival.

This summary, in the nature of summaries, fails to do justice to the sophistication of Quester's history. Therefore, it also fails to do justice to the sophistication which, he shows, strategic thought about airpower and its deterrence possessed long before 1945. Unfortunately, sophistication of thought about the principles of aerial war did not in the two world wars prevent errors in judging the enemy's responses, because those judgments depended upon a different kind of perception, an understanding of human nature. History is one of the instruments that can help us gain that kind of understanding, and Quester is to be applauded for reminding us that history does remain relevant to modern strategic debate.

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HAYWARD R. ALKER, JR. and BRUCE M. RUSSETT. *World Politics in the General Assembly.* Pp. xxvi, 326. New Haven, Conn.: Yale University Press, 1965. $7.50.

ALF ROSS. *The United Nations: Peace and Progress.* Pp. xi, 443. Totowa, N.J.: Bedminster Press, 1966. $8.00.

In his latest book Professor Ross sets out to explain the limitations on, and the prospects for, the future development of the United Nations. He approaches the task along three routes.

The first is a historical and textual analysis of what was intended—or, rather, of all that was possible—when the organization was originally established. The upshot of this enquiry is that the United Nations, as founded, was a security system modeled on the earlier Concert of Europe and based on the hegemony of the world's Great Powers, whose leadership was reflected in the fact that control over and initiative

within the organization were centered in the Security Council.

The second approach is a political analysis of the direction in which the organization has evolved since its foundation. In this direction Professor Ross finds two things. The United Nations itself has progressively been supplemented—not to say superseded—by a network of regional arrangements modeled on traditional alliances. Within the organization, the center of gravity has moved out of the Security Council into the General Assembly (from 1950) and out of the General Assembly into the Secretariat (from 1955); while since 1961, because neither of these shifts made the organization any more effective, it has been unsettled where this center of gravity lies.

At one level Professor Ross thinks that these two changes or deteriorations spring from the original character of the United Nations. The first occurred because the Great Powers ceased to collaborate; the second reflected the effort to avoid the complete stultification that was bound to follow if the Great Powers were at loggerheads. At another level, however, he believes that the changes have resulted, as did the original character of the enterprise, from the character of international politics. Professor Ross's third approach route is an analysis of the nature of relations between states in which he argues that their total regulation by law would be possible only through effective collective security or effective world government and that each of these programs is equally utopian. There is no international politics except power politics. On this ground, as well as in the light of the history of the United Nations, the conclusion seems inescapable: if we want the United Nations to be effective we must return the organization to its Great Power base and restore the control of the organization to the Security Council.

Few students of international history will dissent from this conclusion, the more so as it does not blind Professor Ross to the fact that the context in which power politics is conducted is continually changing. He sees, indeed, that the establishment of the United Nations and the changes in its character—notably the altered size and role of the General Assembly—are important reflections of the alteration in the context which has occurred in the past ten years, but insists that to confuse the changing context with the permanent forces at work in it is to fail to see the wood for the trees. It is thus a far cry from this book to that of Messrs. Alker and Russett. For he dismisses descriptions of the apparatus of the United Nations—and especially analyses of voting in the United Nations—as "unreal constructions," worthless because they do not reflect the realities of the power situation, while they are wholly concerned with the analysis of bloc voting in the General Assembly and with what can be deduced from this.

Ought their approach to be so lightly dismissed? This is not an easy question to decide. On the one hand, it can be said without hesitation that their method of analyzing these votes is more sophisticated than any that has previously been attempted. Moreover, their scrutiny of the voting with the aid of "factor analysis" —with both "rotated" and "unrotated" factors in play—is an attempt to reduce the artificiality of the work by giving some regard to the realities which influence votes. On the other hand, it is disquieting to learn that the General Assembly has been chosen for investigation because "no publicly available information about any other United Nations body is nearly adequate for our purpose"; that, even so, only some of the roll calls have been scrutinized because "to be feasible a balanced appraisal of voting dimensions must be selective"; and that, while some people believe that the real decisions are made in the Delegates' Lounge, the study of voting alignments is justified because "the most controversial and important ones will probably be reflected in roll-call voting."

Still more disturbing is the fact that, as this justification implies, there are no conclusions of any significance in these three hundred and twenty pages which have not already been obtained by other and less tortuous means. Until this situation is changed, until novel and usable results are obtained by this kind of analysis, it is difficult to believe that Professor Ross's attitude is unjustified. There is a great deal

of similarity, indeed, between this most recent type of political science and the scholasticism of the Middle Ages; and one is sometimes even tempted to believe that, in the phrase which Theodore Mommsen used of primitive Etruscan religion, "it is devised with the hair-splitting subtlety which characterizes the mind in the pursuit of absurdities."

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ROBERT Z. ALIBER. *The Future of the Dollar as an International Currency.* Pp. 169. New York: Frederick A. Praeger, 1966. $6.00.

The position of the United States dollar is a crucial element in the current discussion about a possible reform of the international monetary system. In some quarters it is insisted that it would be futile to formulate plans for such a reform until the United States balance-of-payments deficit is substantially reduced or eliminated. There is also some controversy over the role of dollar balances in the spectrum of reserve assets in a reformed system. Professor Aliber's book, written from the United States point of view, is a timely contribution to this discussion. Aliber reviews the historical development of the dollar as an international currency, and he concludes from an assessment of the costs and benefits to the United States of the reserve-currency status of the dollar that, up to now at least, the benefits have outweighed the costs. Next, he discusses three aspects of the international financial problem: the process of balance-of-payments adjustment, the adequacy of reserves, and the stability of an international monetary system characterized by a multiplicity of reserve assets. In Aliber's view, the international monetary problem, so far as it affects the United States, could be solved either by unilateral action or by multilateral arrangements; the choice, he says, depends on which course conflicts least with United States internal and international objectives. The two unilateral solutions surveyed are an increase in the price of gold and the adoption of fluctuating exchange rates—both seen as United States policy decisions requiring no international consensus—whereas the multilateral solution consists of deliberate reserve-creation according to one or another of the international monetary reform plans discussed during the last few years. According to Aliber, external surpluses are less costly to the United States than are deficits or the policies necessary to eliminate them, while for some European countries the reverse is asserted. For this reason he is fearful that deliberate reserve-creation, representing a compromise between various national interests, would tend to fall far short of the amount which the United States should consider optimal; either of the two unilateral steps might then conflict less with United States domestic and international objectives than does the multilateral solution. Whichever course is chosen, Aliber foresees a continued important role for the dollar as an international currency.

The broad political framework in which Aliber places his discussion would be well suited for an "essay in persuasion" advocating a specific course of action for the United States; but this is not Aliber's purpose. He merely tries, in the tradition of analytical economics, to indicate the available alternatives and to set out the considerations on which the choice is to be based. But it is practically impossible, for Aliber or anyone else, to assess the net costs or benefits of the various alternatives including all of their economic and political ramifications. With respect to a problem of such far-reaching implications the role of the analytical economist as adviser to the policy-maker is quite limited. In the end, all that can apparently be said is that the best course of United States policy action is one which most advances the objectives of the United States.

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* The opinions expressed are personal and not necessarily those of the International Monetary Fund.

CHARLES FRANKEL. *The Neglected Aspect of Foreign Affairs: American Educational and Cultural Policy Abroad.* Pp. x, 156. Washington, D.C.: Brookings Institution, 1966. $5.00.

This book is a review of the major problems associated with the conduct of American cultural policy abroad, together with a consideration of proposals for change. It was written just before the author became Assistant Secretary of State for Educational and Cultural Affairs, which gives the book an added measure of importance. The author does not purport to present an array of original data based upon systematic field research. Rather, his mission is "to clarify principles. I have hoped to write a handbook that might be a useful guide to those who wish to think systematically about educational and cultural affairs, or who desire to act in this area with some reference to a criticized set of basic ideas" (p. 132).

The volume is organized into three parts. An initial set of four chapters is devoted to a survey and a review of the administration of cultural affairs abroad by the United States. The focus is upon the cultural affairs officer abroad and the Bureau of Educational and Cultural Affairs at home. The discussion is judicious, even cautious, and invariably accurate. Chapter 4, on "The Controlling Audiences," is less strong than other parts of the book. The discussion on communication between American intellectuals and intellectuals abroad (pp. 52–61) is a competent review of the well-known difficulties of such communication since the persons come from different cultures and different educational systems, but no attention is given to the great progress that has been made in creating a community of scholarship, including effective communication, in many professional fields. Only brief attention is given to the Congressional audience (pp. 63–66). Notable by its absence is any discussion of the role of Congressman John Rooney, Chairman of the House Appropriations Subcommittee, an omission which makes the summary unrealistic.

The second set of four chapters is the meat of the volume. The traditional purposes of educational and cultural exchange programs are analyzed, and a reformulation is set forth. The author finds the traditional listing of purposes—promoting international good will and understanding, advancing United States foreign policy objectives, contributing to economic and technical assistance, and promoting intellectual exchange and educational opportunity—inadequate. "These goals need to be stated with greater circumspection and sharpness if policy is to be more orderly and precise and if public discussion is to be more pertinent" (p. 99). The alternative formulations set forth are the following: lacing together educational systems, improving the context of communication, disciplining and extending international intellectual discourse, developing international education—by which is meant educational development of the countries of the world—and furthering educational and cultural understanding. The revised list does bring greater circumspection as does the accompanying analysis, but the terminology used needs to be sharpened and made more understandable.

As reflects his Columbia University background, the author is particularly interested in exchanges with the Soviet Union—an excellent twelve-page discussion—and area studies. His assessment of the latter will surprise colleagues who have been increasingly critical of area studies: "such studies may eventually have as much significance for the progress of human knowledge as the spectacular discoveries that have been made in the natural sciences" (p. 117). He attributes primarily to area studies, on balance probably erroneously, "the intensified process of intellectual and cultural exchange with the developing countries that has marked the years since the war" (p. 117).

In the final chapter, the third section of the book, proposals for change are examined. Here again, the author is guided by the objective of presenting a useful checklist. The description would have been strengthened—as, indeed, would the entire lightly footnoted volume—if the context of the evolution of the proposals had been set forth. The discussion is clear and straightforward. In sum, the author has provided a useful and highly readable handbook on

educational and cultural policy abroad, a volume that will be of particular value to the interested lay public.

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WALTER JOHNSON and FRANCIS J. COLLIGAN. *The Fulbright Program: A History.* Pp. xv, 380. Chicago: University of Chicago Press, 1965. $8.50.

The Fulbright Program: A History is the first book-length treatment of the subject. Walter Johnson, then a professor of history at the University of Chicago, was a leading member and Chairman of the Board of Foreign Scholarships, during its early formative years; and Francis J. Colligan was, during the same years, an official of the State Department working in the area of educational exchange.

The specialized audience which will read this book include members of Congress, officials connected with foreign affairs, university scholars, persons in international organizations, leaders of public opinion, and those individuals who have been working intimately with the Fulbright program. In Parts I and IV, the pros and cons of policies, political issues in the law and in the administration of the program, are laid bare. Although many of the basic policies forged by the Board (chapters 4 and 5) still prevail, the fundamental question discussed in chapter 6, "Information or Educational Exchange," is probably still at issue.

Part IV, which deals perceptively with the new Fulbright-Hays Act, and especially the last chapter, "The Road Ahead," not only reveals the continuing controversies but perhaps implies the inadequacies of the revised legislation. Despite any need for co-ordination of legislation and programs, the new Act may have tried to pull together too much and too many. Is this why it took eight months to hammer out the President's Directive, assigning areas of responsibilities among claimants? It may be doubted whether even now, four years later, the new Act is fully under control.

The main and larger audience for this book is the whole American public whose acquaintance with the "new dimension of foreign affairs" has just begun. Several other recent books and articles are contributing to this education, but only this book has presented a world-wide picture of the major educational exchange program actually in existence. The authors selected for description a large number of projects from countries spread over the world, illustrating the variety and richness of the possibilities. Of necessity, a great deal more has been omitted than has been included; but the imagination and interest of the general public should be stirred both by the overseas programs and by the participation of the American universities and communities.

The authors have given happy recognition to the leadership and creativity of Senator Fulbright, both in the text itself and by including his foreword. They also have included very valuable appendices giving the full text of both Acts, revealing figures on the extent of the program, identification of Board and Committee members, and a bibliographic note astonishing in its extensiveness.

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HAROLD SPROUT and MARGARET SPROUT. *The Ecological Perspective on Human Affairs: With Special Reference to International Politics.* Pp. xi, 236. Princeton, N.J.: Princeton University Press, for the Princeton Center of International Studies, 1965. $5.50.

Geography, a discipline bridging the exact sciences of nature and the not-so-exact sciences of man, seems to have rid itself of the last century's determinist philosophies much sooner than the social sciences. For a long time, geographers have conceded to environment the power to condition, but not to determine the economic and political evolution of human society. In brief, man is free not only to accommodate himself to the geographical environment but also modify it. Human history is thus the history of the systemic association of men with

one another and with nonhuman conditions and events. Perhaps, that somewhat compulsive preoccupation with theoretical sophistication which American geographers share with American social scientists has engendered excessive probabilistic zeal. Here and now, geography does determine with considerable finality the place which a nation holds and, in the foreseeable future, will hold in the international pecking order of wealth and power. Because of its location, remote from the crossroads of trade and history, the Argentine will not advance to the rank of a major power within the lifetime of the present generation. The geographer need not pretend that he is more ignorant than he really is: he can confidently prognosticate that the Chinese, an eminently reasonable people, will resist the lure of the open though inhospitable spaces of Siberia. If expand they must, they will choose a southerly and southwesterly direction. In this sense, the climate and the soils of Siberia are "deterministic."

In this admirably concise study, Harold and Margaret Sprout survey the literature on the relationship of human society and geographical environment—"man-milieu relationships"—and seek to relate theories about these relationships to contemporary approaches to the study of international politics. Their analysis is informed by one simple yet powerful idea, namely, the distinction that must be drawn between the psychological and the operational environment of the actor in international politics. They state their major thesis as follows: "So far as we can determine, environmental factors (both non-human and social) can affect human activities in *only two ways*. Such factors can be perceived, reacted to, and taken into account by the human individual or individuals under consideration. . . . On the other hand, the relation of environmental factors to performance and accomplishment (that is, to the operational outcomes or results of decisions and undertakings) may present an additional dimension. In the latter context, environmental factors may be conceived as a sort of matrix, or encompassing channel, metaphorically speaking, which limits the execution of undertakings. Such limitations on performance, accomplishment, outcome, or operational result may not—often do not—derive from or depend upon the environmental (envisioned) individual's perception or other psychological behavior" (p. 11).

The Sprouts reserve considerable space to the critical dissection of theories, past and present, of environmental determination and possibilism. Some of the horses they flog are very dead indeed. Sometimes, their pursuit of theoretical rigor and distinctiveness seems to lead them into semantic thickets: their own views are so close to those of the possibilists, especially the French geographers Vidal de la Blache and Demangeon, that this reviewer has not been able to discern any significant difference. Be that as it may, the Sprouts contend that, somehow, there is a process of interaction between human perception and the environment which affects the outcomes of human action. They concede that "in many instances environmental limitations on outcome or performance may be effective even though the limiting factors were not perceived and reacted to in the process of reaching a decision and initiating a course of action."

The authors' chapters on probabilistic models and the cognitive aspects of human behavior contain useful introductory materials for the study of international politics. Neither the Sprouts nor, for that matter, anybody else has as yet answered the question: To what extent do perceptions, as contrasted with the operational environment, affect outcomes? Perhaps, the development of probabilistic models of behavior will yield ultimately an understanding of the interaction between perception and environment.

Quite rightly, the Sprouts castigate contemporary political theory for its reifying propensities. They write as follows: "Political theorists have borrowed heavily from [the] stock of logical terms and propositions; and they have applied these not only to concrete human individuals and groups, but also to abstract entities such as the state, the political system and the international system." They express doubt as to "whether this extension of psychological concepts and theories to high level abstractions is either tenable or necessary."

In brief, neither a state nor a system as such is capable of interacting with its environment.

The authors attempt to relate capabilities-analysis to perception-environment interaction. Here, they extend the conceptual schemes developed in their celebrated textbook. They propose that national capabilities be studied comparatively under the following functional categories: (1) information-providing functions; (2) information-utilizing functions; (3) means-providing functions; (4) means-utilizing functions; and (5) resistance functions. The authors do not explicitly embrace one or the other of the currently fashionable system-theories and reject as misleading analogies between mechanical and social systems, which proliferate throughout the groves of political systems-theory. Yet, the authors' categorization of national capabilities provides a handy design for systems-analysis. The "effectiveness" of a national unit within the international system might be measured by the criterion of its ability to satisfy certain functional prerequisites.

The authors' principal contribution to international-relations theory lies in the clarification of those concepts which should lend themselves to an empirical and nonmetaphorical systems-approach. The authors halt their labors on the threshold of innovation. Yet, political science stands in their debt. A conceptual house-cleaning has been long overdue. The job needed doing, and those political scientists who do not mistake the latest scholastic wrinkle for an intellectual breakthrough will not take it amiss that geographers wielded the broom.

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I. WILLIAM ZARTMAN. *International Relations in the New Africa.* Pp. xi, 175. Englewood Cliffs, N.J.: Prentice-Hall, 1966. $5.95.

In this seriously misnamed book—which deals with only half of Africa's newly independent nations—the author consciously tries to break new ground in the study of international politics of Africa. First, he groups the Maghreb with the Sub-Sahara states of West Africa—from Mauritania to Nigeria—and assumes that these seventeen nations can be usefully treated as a unit. He asserts they are comparable, that they form a meaningful group for analysis, and that there are valid generalizations for this area as a whole. Secondly, he assumes that the tools of diplomatic history can be usefully applied to these new nations and that analytical concepts of international relations—national interest, ideology, decision-making, and the like—can also be used to describe the political intercourse among these countries.

To apply this methodology, the author divides his work into four principal parts. In the historical background of the parties, the emerging states and their regional arrangements, he traces a decade of their international relations from 1955 to 1965. Treating initially the independence of the Maghreb, he then moves to West Africa below the Sahara and finally concludes with a discussion of regional relations within the Organization of African Unity. In the second part, "Criteria for Policy," the author discusses the difficulties of applying traditional standards of national interest and national security to these emerging nations and describes the influence of personality and ideology on the conduct of their foreign policy. The third part deals with three aspects of intra-African relations: the limits of violence and intervention; the politics of boundaries; and the limits on unity and co-operation. Formal violence (war) is limited by the smallness of African military forces, but intervention in less formal ways is possible because the new nations lack defenses against subversion. The arbitrary boundaries of Africa both engender controversy and illustrate a need for co-operation, which, however, can only be limited in Africa's present state of development. In conclusion, the author observes that foreign policy reflects the stage of nation-building in Africa, with its difficulties and potentialities, that regional co-operation is only beginning to develop since necessary conditions for real unity are lacking, and that the primacy of ideology, the low incidence of power, and

the inevitable evolution of domestic institutions are long-term factors affecting relations among these nations.

Throughout this volume, the author has given himself an impossible problem. The seventeen countries he discussed are too disparate to be treated satisfactorily as a unit of either narrative or analysis. To provide his background material the author must give all-too-brief sketches of the emergence of each of these countries. To describe their regional conflicts and cooperation, the author must go beyond the area he has set for analysis in important cases such as the Casablanca group, the Union Africaine et Malagache, and the Organization of African Unity. To draw valid generalizations he must generalize so broadly as to deal often with the obvious. The Prentice-Hall printing job reminds one of wartime books in Britain.

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CHARLES B. MCLANE. *Soviet Strategies in Southeast Asia: An Exploration of Eastern Policy under Lenin and Stalin.* Pp. xv, 563. Princeton, N.J.: Princeton University Press, 1966. $12.50.

This volume fills a gap in the literature on Soviet policy in Southeast Asia. Covering the years from 1917 to 1954, the author has organized his book in six chapters. In the first chapter he traces the general evolution of the Kremlin's policy in the East from 1917 to 1928, but in the other five he concentrates on Southeast Asia. Here his periodization is one chapter devoted to the 1920's ("Early Soviet Policies in Practice"), another to the period 1930–1935 ("Eastern Strategies in Abeyance"), a third to the years 1935–1941 ("United Front"), another to the period 1941–1947 ("Communism in Suspension"), and a final to the years 1948–1954 ("Engagement and Disengagement"). In order to make his study as complete as possible the author not only deals with Soviet policy in Southeast Asia and the Communist movements in the countries of that area but also with the Communist parties in the colonial powers and in China as their attitudes affected Southeast Asia. The activities of international Communist organizations like the Comintern and Cominform are also analyzed in terms of the objective of the study.

The scholarship of the book as indicated by the footnotes and the Bibliography is impeccable; the painstaking research in Soviet and other sources is an index of the industry of the author. A number of structured interviews have added to the value of the study. The author frankly acknowledges in the Preface his debt to a number of Southeast Asian country specialists. His own contribution, it should be noted, is largely found in the light he throws on Russian strategies in Southeast Asia from his study of Soviet and Soviet-dominated source material. Until the Kremlin opens its archives, it is doubtful if a more authoritative study can be made.

Despite his research the author is modest in his appraisals. He seeks in his own words "to underplay the evidence at hand and to avoid the temptation of rendering a fuller account of Russian policy in Southeast Asia than the facts will suggest." This approach is refreshing in a period when there is a tendency in scholarship to move in the other direction. At the same time, as indicated in the chapter headings mentioned in this review, the shifts and trends in Soviet policy from 1917 to 1954 are clearly presented. After reading the book, a scholar, moveover, can better understand Soviet strategies in Southeast Asia since then. This reviewer hopes that the author will continue his study in terms of documentation and analysis for the years following Stalin's death.

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ARTHUR P. WHITAKER and DAVID C. JORDAN. *Nationalism in Contemporary Latin America.* Pp. ix, 229. New York: Free Press, 1966. $6.95.

GERHARD MASUR. *Nationalism in Latin America: Diversity and Unity.* Pp. x, 278. New York: The Macmillan Company, 1966. $5.95.

It is curious that these two studies, with almost identical titles, obviously done quite independently of each other, and published by related companies, should appear almost simultaneously. The scholarly world is the richer for each of the books; both are excellent.

Nationalism is, of course, a highly complex phenomenon, and its manifestations in Latin America have been relatively little studied on a systematic basis. These two volumes do not exhaust the subject by any means, but both provide very good introductions to it.

Despite the fact that both studies are concerned with the same general problem and both deal with many of the same areas, the two are interestingly complementary. Each book has introductory and concluding chapters. Whitaker and Jordan concentrate their analysis on Mexico, Argentina, Brazil, Colombia, Peru, Chile, Uruguay, Venezuela, Bolivia, and Cuba; Masur focuses on Mexico, Bolivia, Brazil, Argentina, and Cuba, and to a lesser extent on the Andean countries. Both studies have used Latin-American sources widely; Masur in addition has consulted many German materials that the average scholar overlooks.

The emphasis in the two volumes, despite the fact that both pursue the same path, differs. For example, Masur goes into a good deal of detail about the relationship of the Mexican constitution's Article 27 to the problem of nationalism in that country, but Whitaker and Jordan treat that famous article almost incidentally. The latter authors devote a stimulating chapter to what they call "continental nationalism" —though they confess it seems almost a contradiction in terms—but Masur has almost nothing to say about that aspect of the problem.

One gets the impression that Whitaker and Jordan have approached the scene and the problem with a microscope as their primary tool and that Masur has used a telescope; both approaches, of course, have their advantages. Neither study, unfortunately, has much to say in head-on fashion about the problem of political alienation of large numbers of *latinos*, nor does either of the volumes discuss the impact of Latin America's fantastically expanding population on the whole problem of nationalism, for better or for worse, in the area. The treatment of Cuba in both studies leaves the reader slightly dissatisfied. We are still very close, in years, to the Cuban Revolution(s), and hence quite understandably cannot see to the bottom through the muddied waters, but one finds himself wishing that authors as knowledgeable as these three are would have tried to probe more deeply into the underlying *raison d'être* of Castro's Revolution.

A very few errors of fact or usage mark the authors as only human, and after all, the errors are not important. For example, Masur credits the Colombian Liberals with coming into power in 1934 after thirty years of Conservative rule; actually, it was in 1930 after the Conservatives had been in power for fifty years; Whitaker and Jordan refer to Cárdenas' successor in Mexico as Camacho, though the preferable usage is Avila Camacho. These are, of course, trivial, and do not in any way invalidate the two useful studies.

Nationalism is certainly one of the most obvious political phenomena and one of the strongest motivating forces in most parts of Latin America today. Where it will take the twenty states of the area cannot be answered in mathematical terms. But for thoughtful analysis of the intricate problem in its various dimensions these two volumes are excellent introductions. If pushed to the wall with the insistent question as to which is the better book, this reviewer would hope to be allowed to toss a coin for an answer—and then would hope the coin might light on its edge.

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KEITH SPICER. *A Samaritan State?: External Aid in Canada's Foreign Policy.* Pp. xiv, 272. Toronto: University of Toronto Press, 1966. $8.50.

A Samaritan State? is the first book-length study of Canadian foreign aid. It is mature and reflective, objective, and scholarly; it is analytical rather than chronological or merely descriptive, written in

workman-like style singularly free from jargon; and it is comprehensive, covering policy, administration, and operations.

Mr. Spicer is especially concerned with establishing a sound rationale for a policy of foreign aid, since without it he feels it may become increasingly difficult to justify aid to the Canadian taxpayer. He does a useful job in separating policy from slogans and propaganda, but he is less successful in establishing a rationale for policy. He discards the humanitarian motive as "no more than a fickle and confused policy stimulus . . . not an objective of government." External aid, he insists, is simply an instrument of diplomacy, and like other instruments must be judged on the basis of its contribution to the national interest.

Foreign aid, he concludes, is justified on two grounds: first, as a sort of insurance policy against the probable resentment of prospective recipients should Canada not participate in aid-giving—this might be labeled as the "fear of blackmail" reason. Secondly, aid may be justified for its educational value to the donor-country—by helping it to comprehend the real forces in a world no longer dominated by the white race. Canada might thus be better equipped to take independent initiatives in the prolonged search for peace. How far are taxpayers or their representatives likely to be moved by such sophisticated reasoning? Perhaps the philanthropical argument which Mr. Spicer rejects may well be more useful in extracting dollars from hard-faced bureaucrats and legislators.

The author modestly disclaims qualifications for a comprehensive assessment of Canadian aid on the ground that there is no one discipline concerned but several, and hence no generally acceptable criteria on which to base judgment. But he does have the impression that as compared with other large donors Canadian aid has been within reason soundly conceived and administered and is free from scandals and undue waste. He presses, however, for a procedure of regular review of foreign policy as a whole, including aid, which, if it is to be effective, must never become routine.

Mr. Spicer is to be congratulated on a book which should prove useful to bureaucrats and academics alike, as well as to the layman, who after all pays the bill, if he will read it.

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ASIA AND AFRICA

RALPH BRAIBANTI. *Research on the Bureaucracy of Pakistan: A Critique of Sources, Conditions, and Issues, with Appended Documents.* Pp. xxiii, 569. Durham, N.C.: Duke University Press, for the Duke University Commonwealth-Studies Center, 1966. $12.50.

This work, in large part the product of Professor Braibanti's unique access to official records during his tenure (1960–1962) as advisor to the Civil Service Academy at Lahore, will be an indispensable research guide and source book for students of the Pakistani administrative and judicial systems. The study goes beyond the scope of a bibliographic essay, dealing thoughtfully with contemporary environmental considerations: problems of the universities and students, the character of the intellectual and legal communities, the language factor, and the role of the press. The author's fascination with the role of the judiciary in the administrative process is evident, leading him to analyze trends in judicial interpretation considerably further than necessary to make a bibliographic point. These analyses are of considerable worth and, together with the author's discussion of sources for the study of bureaucratic organization and his survey of administrative reforms and martial-law commissions of enquiry, constitute a valuable contribution to the literature.

Professor Braibanti is on less sure ground when he moves from legal-bureaucratic analysis to the actualities of administration in the provinces. Unfortunately, it is impossible within the limitations of this review to place one's criticisms within an appropriate context. However, because this work will be regarded as authoritative, some of its major weaknesses must be suggested. An important historical error

is the author's confusion of the former northwestern provinces—now Uttar Pradesh—with the former northwest frontier province, with consequent mistaken comments. The administrative and historical complexities of the Pathan and Baluch frontiers have led him into numerous errors, both in the text and in the table on pages 159–160. He has not captured the differences in district organization in the two provinces and is mistaken on the present significance of the East Pakistani *thana*. Further, it is not accurate to say that there is no separation between the judiciary and the executive in Pakistan nor that Commissioners and Deputy Commissioners are responsible for courts within their jurisdictions. The matter is more complicated than that.

The volume includes several valuable tables and one hundred and eighty-eight pages of appendices. Some of the latter are extracts from important documents, but roughly half the total pages are speeches the value of which will be a matter of debate among readers. Finally, to at least one reader besides this reviewer, it is remarkable to find in a study of the research environment of Pakistan no reference, direct or indirect, to Akhter Hameed Khan of the Academy for Rural Development, Comilla.

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A. TAYYEB. *Pakistan: A Political Geography*. Pp. xvi, 250. New York: Oxford University Press, 1966. $8.80.

Tayyeb's monograph, one of the few of its genre, is attractive, readable, and seemingly comprehensive. Unfortunately—and paradoxically—these qualities, along with the Oxford imprimatur, will probably gain the work an audience it does not deserve. The author, "originally an Indian Muslim and at least temporarily a Pakistani national" (p. ix), merits praise for his genuine and, in general, fairly successful attempt at impartiality. On the other hand, this is a sloppy, sometimes naïve piece of scholarship. Carelessness permeates the book: (a) in the prose exposition, (b) in the tables and general use of numbers, (c) in the maps, and (d) in the use and citation of sources. Scores, possibly hundreds, of errors might be cited, as in the following examples.

Tayyeb argues at some length (p. 116) that the canal areas of West Pakistan have "a more diffused population pattern" than that of East Pakistan which "continues to coagulate [sic]—alongside the delta distributaries." Virtually, the opposite is true. (One gets the impression from this and other passages that the author has never set foot in East Pakistan.)

In a single table (p. 111) out of twenty-four percentages computed four had misplaced decimal points and in two of those the decimal was off by two places. Believing his own erroneous arithmetic, Tayyeb states (p. 112) that at the partition of India "Pakistan received less than 1 percent of all the registered manufacturing plants and an even smaller proportion of industrial labour." His lack of feeling for magnitudes, an unpardonable failing in a geographer, is nowhere more evident than when he makes a point of noting (p. 115) that "the total cropped area of Pakistan amounts to—less than 10,000 square miles." Again he is off by a factor of ten.

On the maps, which have a specious look of clarity, omissions and inaccuracies abound. In the more important of his two fold-out end papers the Vale of Kashmir—not named—opens most broadly not to west, via the low-lying Jhelum entrant—shown as closed by mountains—but in a gap at least twenty-five miles wide across the Himalayas—also not named, though the Chagai Hills in Baluchistan are.

In citations, dates and page numbers are very commonly omitted. Out-of-date or curiously chosen works are used to make points substantiable by more recent and more authoritative sources. One reads (p. 38) that "according to one writer, conversions to Islam in the Punjab were 'due to the holy men and their persuasion rather than the sword.'" The source is the 1902 *District Gazetteer of Multan*, the date of which we learn only on referring to the Bibliography. No other mention is made of the widespread and well-documented influence of the Sufis. Citations of titles and authors are often butchered. Sir Aurel Stein becomes Sir Alexander (p. 235), and

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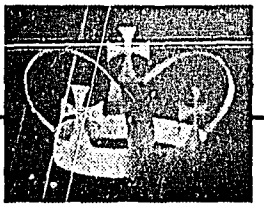

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L. M. Alexander's *World Political Patterns* is rendered as A. V. Alexander's *Political Patterns* (p. 195). Willy-nilly, names of articles are set in italics and those of books in Roman type.

The best chapters of the book, though even these are marred by grievous flaws, are the two dealing with Pakistan's boundaries. Tayyeb's arguments on the unreasonableness of specific aspects of the Radcliffe Award are quite good. Also well reasoned is the chapter "Problems and Prospects of Pakistan's Social Stability."

The depth of treatment, by topic, is perplexing. Surprisingly, a fifth of the total length concerns essentially the historical geography, of India back to the Mauryan Empire. Similarly, one wonders why, in a political geography, an even greater length is devoted to "An Appraisal of Pakistan's Economy." Conversely, the discussion of the Rann of Kutch dispute receives but one short paragraph (p. 76), and, more shocking by far, the relations between Pakistan and China with respect to Kashmir and their March 1963 border agreement in that area are also treated in but a single, shallow paragraph (p. 224), plus a passing notice (p. 233) in "Concluding Remarks," the latter obviously added in late 1965. This brings us to a final shortcoming: though published in 1966, the work appears to have undergone almost no ammendations subsequent to the author's Preface of February, 1964.

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ZAHIR AHMED. *Dusk and Dawn in Village India.* Pp. xv, 144. New York: Frederick A. Praeger, 1966. $4.50.

This book purports to be the autobiographical notes of a friend and fellow officer of the author in the civil service of Hyderabad state. It is, however, neither a chronological narrative of his life nor a systematic analysis of rural problems in India, but rather a series of sharply etched anecdotes from his diary. In fact, the title is not very appropriate since considerable parts of the book are devoted to the Communist uprising of Telengana and to the plight of the Hyderabad nobility after the absorption of the Nizam's state by India in 1948.

To this reviewer, the latter sections provide the more original contribution. Other authors have dealt more thoroughly with the sociology of village life and the impediments to reform, but few have sketched so poignantly and perceptively the impact of change on a displaced feudal aristocracy and even on the professional middle class of Hyderabad Muslims who knew no other career than government service. It is fashionable in India today to castigate the Nizam's regime for being totally "reactionary" and "communal." Ahmed subtly corrects this stereotype by reminding us that the followers of Hinduism and Islam lived together peaceably in Hyderabad and that dedication to rural uplift was not a monopoly of the nationalist movement.

Yet the author leaves much untold about events with which he must have been personally familiar. One would never know from reading the book that a "police action" took place in 1948 or that it had any bearing upon the Communist terrorism in Telengana. Perhaps it is still too early for an objective history of the downfall of the Asaf Jahi dynasty of Hyderabad to be written, but if it is not done soon the major actors will all have died and we will be left only with K. M. Munshi's and Laik Ali's partisan accounts. Only indirectly does the author betray his feeling about the price of "progress." For instance, in his delightfully ironical description of the style of life of a newly rich Andhra Pradesh cabinet minister in the former palace of a Hyderabad nobleman he states that "the new owner . . . had taken great pains to introduce into it the . . . squalid . . . disorder of his village." But this attitude is more the disdain of the Anglophile civil servant for the less modernized politicians of independent India than an atavistic desire to return to feudalism. The author like many educated Indians, is continually torn between the values of democracy and efficiency.

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S. GOPAL. *British Policy in India, 1858–1905.* Pp. xii, 422. New York: Cambridge University Press, 1965. $13.50.

This volume is the first of a series of South Asian Studies to be published by the Cambridge University Press in association with the Cambridge University Centre for South Asian Studies. Dr. Gopal, already well known for his book on the administrations of Lord Ripon and Lord Irwin, has recently returned to academic life after a strenuous tour of duty as head of the Historical Section of India's Ministry of External Affairs at the height of the border dispute with China. He is therefore supremely well fitted to assess British policy since 1858; a second volume carrying his reflections down to the present time would be most valuable. His method is to tell the story viceroyalty by viceroyalty, sharply etching the personality of each viceroy, separating within each of his five chapters foreign from domestic affairs, and summing up at 1869, 1880, 1888, 1898, and 1905. He naturally regards the administrations of Ripon and Dufferin as a "liberal experiment" between two periods of conservatism and caution. With Lord Curzon comes "the apogee" of the Victorian raj.

The discussion of Curzon's governor-generalship is the best in the book. Equally at home in the British and the Indian scene, Dr. Gopal holds the balance evenly between Curzon's limitations and his merits. Based primarily on the recently opened private papers of viceroys, this study affords many fascinating insights into the making of policy, but it does not change the main outlines very much except perhaps in underlining the potential greatness of Lord Mayo whose rule was so tragically cut short by assassination in 1872. This dependence on private papers has dangers as well as advantages. Indian policy is not sufficiently placed in its imperial setting. Dr. Gopal's focus is too seldom related to the expansion of empire in the Victorian age and the steps in the progress from empire toward commonwealth. Greater attention to the masses of material concerning India in the Foreign Office and Colonial Office records might have somewhat redressed this imbalance. One would never know, for example, from this book that India was a problem to imperial federationists or that a writer like Seeley ever existed.

Dr. Gopal's method also leads him to pay insufficient attention to the growth of Indian nationalism although the government's attitude to its early manifestations is a subject of great interest which has evoked much discussion in recent years. Separation of foreign from domestic issues and separation of domestic issues from each other may make for clarity, but the reader needs more often to be reminded that statesmen have to deal with all kinds of issues as they occur. This is especially true of the events surrounding the background and first meeting of the Indian National Congress when Lord Dufferin was simultaneously pursuing his Afghan and Burma policies while struggling with internal financial difficulties. The reader is seldom made to see all the facets of a situation which confronted a viceroy; also topics are not uniformly treated in the same order within each chapter. In short, this is a very valuable study of British policy in India in the late Victorian period, but it is a study in depth chiefly with regard to politics and diplomacy; it relates far less closely to the economic and social history of the period or to India's part in the history of the British Empire.

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M. N. SRINIVAS. *Social Change in Modern India.* Pp. xv, 194. Berkeley and Los Angeles: University of California Press, 1966. $5.00.

Social Change in Modern India was the theme of the Tagore lectures delivered by Professor Srinivas at Chicago in 1963. The theme is of importance to the policy-makers in India and the social scientists interested in the problems of change. Srinivas asks the question: What are the orientations of change in India? As is generally agreed these are two—(1) Indian and (2) exogenous, in this case Western. The Indian orientations are towards India's past or what is generally called traditional Indian society and culture. The Western orientations are toward the contemporary and recent Western society, particularly the

nineteenth-century British society. Srinivas calls them Sanskritization and Westernization respectively. He defines them by delimitation of their behavioral aspects, the former rather strictly or less vaguely than the latter. Sanskritization according to him is the "process by which a low Hindu caste or tribal or other group changes its customs, ritual, ideology and way of life in the direction of a high and frequently twice born caste." His focus is stratification and mobility, and the behavior pertaining to these two remains his empirical referent. By Westernization, he means that which characterizes "the changes brought about in Indian Society and culture as a result of over 150 years of British rule and the term subsumes changes occurring at different levels—technology, institutions, ideology or values." Srinivas is aware that the term is vague and omnibus. But the differences in the points and areas of observation of these two terms create difficulty for "the complex and intricate interrelations between Sanskritization and Westernization," which he correctly says is a fertile field for analysis and speculation. Sanskritization and Westernization do not move on parallel roads. At every point they cut each other, and the resultant pattern may be neither one nor the other. If this pattern is to be identified and analyzed much more refinement and precision are necessary.

Srinivas characterizes the resultant pattern in cultural terms as "one of the results of a century of Westernization—Secularization is subsumed under Westernization—is reinterpreted Hinduism in which Sanskritic elements are pre-dominant." According to him, the most important value preference in Westernization was humanitarianism which subsumes several other values such as equalitarianism and secularism. Srinivas's position is that the Hindu "tradition of tolerance, syncretism and self-criticism" received the value of Western humanitarianism and began to embody it in the "legal, political, educational and other institutions" in India in the late nineteenth century. This was done through the agency of the Westernized Indian intellectual elite. Srinivas supports this position with a wealth of behavioral material. At this point, one thinks that the social-psychological study of personality would be a fruitful area of research.

The emerging pattern of a social system according to Srinivas is not Western though influenced by the whole gamut of forces of Westernization. His focus is on the stratificatory system as required by his definition of Sanskritization. The traditional stratificatory system—the caste system—was more mobile and less rigid than is generally believed. This is a contention with which many will not quarrel today. The question is: Is it being replaced by an open stratificatory system due to the forces of Westernization? Srinivas's answer is that "changes of fundamental kind are occurring. But it cannot be described as a simple movement from a closed to an open system of stratification" and "caste continues to be relevant in subtle and indirect ways, in such mobility." This is true, but how much longer will it be correct to say that the position of a person today is determined by the position of his caste in the traditional hierarchy? The portents are that it is not the backward position of the caste but the economic and educational backwardness that stands in the way of an individual's mobility.

One may agree with or differ from Srinivas, but he deserves to be congratulated for the issues that he raises, the light he throws on them, and the new angles that he provides.

I. P. DESAI

Surat
India

BERNARD B. FALL. *Viet-Nam Witness, 1953–66.* Pp. ix, 363. New York: Frederick A. Praeger, 1966. $6.95.

Few men have not at some point wished to cast a shadow larger than life. By the same token, anyone who has written much political analysis—especially with regard to ever changing areas like Vietnam—would be happy for an opportunity to go back over his writings, clean them up a bit, and look better the second time around than he did the first. Bernard Fall unfortunately appears to have succumbed to this attractive prospect.

A snide dedication—to two United States Foreign Service officers whom the author

presumably found unco-operative—sets the tone for this carefully prepared volume of twenty-six articles on Vietnam, by Professor Fall of Howard University. Unquestionably, the most prolific of Western commentators on Indo-Chinese affairs, this French scholar has published more than eighty articles and six books since his first visit to the area in 1953. We are all in his debt for his detailed studies of the Communist regime and apparatus in Vietnam, before and since Geneva. Much that he has written is perceptive and even wise; his mind is quick and his pen facile. But his writing has been consistently marked by a logical French bias that implies that "even as we French failed, so will you Americans," and this has blurred his vision. Nevertheless, on balance his contribution to our knowledge of the people and problems of the Indo-Chinese states has been welcome and worth-while.

The present book brings together a selection of Fall's articles, retitled for purposes of this publication—rather confusingly for the reader who saw them in their original form—and edited to emphasize the claim of the author and his publisher that he has been consistently correct in his analyses and prognostications over the years. Would that this were truly so. When one checks as has this reviewer, and compares the texts of the excerpts in *Viet-Nam Witness* with the texts of the pieces as they were originally published, he notes that many of the deleted portions give a somewhat different impression of Fall's thinking than as they are now edited and republished. For instance, some 1,100 words of an article entitled "South Viet-Nam's Internal Problems" were omitted from the reprinted piece—re-entitled "The Birth of Insurgency" (pp. 169–189). The omitted words observed, among other things, that "members of the Michigan State University team . . . have repeatedly warned the Presidency against taking steps that would drastically interfere with the tribal life of the highlanders and drive them into the arms of Communist agitators." Another omitted portion compared the two Vietnams thus: "like a grim Sparta next to a free Athens, the North Vietnamese regime, with its twenty divisions of well-equipped and battle-tested troops, its all-pervasive political system and its controlled economy . . . still looms as a potential danger across the border. However, no one seriously believes that an open attack today from this sector is likely, and South Viet-Nam . . . is . . . under the protective 'umbrella' of the [SEATO] treaty and entitled to aid from its member nations in case of a Communist attack." And, in the original article the regime in Saigon was characterized thus: "Even a superficial survey of the Saigon press—which is remarkably free in reporting news not directly connected with the Presidency." And again: "The Chinese businessmen have, in one way or another, made their peace with the government and are ready to stake their future on the survival of the Republic of Viet-Nam." These omissions tend to run counter to Fall's recent position as an opponent of United States policy in Vietnam since 1954. Something more than shortening for editorial purposes seems evident here.

More important than the effect gained by eliminating such "rough edges," perhaps, is the omission of other articles in their entirety. Of course one understands that not all of Fall's earlier writings could be included and can sympathize with his desire to rewrite and revise that which had already appeared in print. Yet one cannot help but wonder when a scholar who sharply criticizes other scholars in his field for assertedly being limited in their freedom to write objectively by their commitments to the organizations which have supported their research, and who then preens himself for having demonstrated his own ability to "think independently," omits from his selected articles those which give a different image of Professor Fall than that which he wishes to be remembered. One example must suffice in a brief review: in numerous articles which he has written about the Geneva Agreements and their aftermath, the author has taken a strong stand on several sides of the relevant issues. In a *Viet-Nam Witness* selection from *The New York Times Magazine* of May 2, 1965, for example, he referred to the Final Declaration of the Geneva Conference in the following words: "There is no question as to the language of that declaration: It

fully prescribes the mechanism of general elections for all Viet-Nam, to be held two years hence. But there is some question as to the declaration's form—for it was an *unsigned document*." (Italics in the original.) Yet five years earlier in a scholarly essay entitled "North Viet-Nam's Constitution and Government" (*Pacific Affairs*, September 1960, pp. 282–290), Professor Fall wrote: "It is a common error of even specialists in the field to believe that the July 20, 1954 Geneva agreements on the Indochina cease-fire 'provided' for a plebiscite to be held by both zones on or before July 1956. This plebiscite was mentioned only in the unsigned Final Declaration and the reference to it there constituted merely an expression of hope by the signatories (of which South Viet-Nam was not one, but France was) but not a binding commitment upon anyone. The Final Declaration was a temporary face-saving device given by the West to the Communists, but little else."

What price must one pay for consistency?!

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FRED W. RIGGS. *Thailand: The Modernization of a Bureaucratic Polity*. Pp. xiv, 470. Honolulu: East-West Center Press, 1966. $10.00.

When I visited Siam, as it was then called, in the early 1920's, there seemed to be little American interest in the country. Access was not too easy, as Bangkok was reached principally by the so-called International Express from Penang or by small steamers of the Straits Steamship Company from Singapore. The occasional travelers were welcomed by hordes of huge and voracious mosquitoes. The old-fashioned wash bowls and pitchers at the Oriental Hotel were floating with them each morning. Although the Siamese had a number of American advisers, the official American presence was limited to a vice-consul who was himself a resident and owned a small drug store, dispensing medicines and visas from his prescription counter with equal facility.

All this has changed. The United States has become increasingly interested in Thailand, and the extent of its interest may be measured, in American standards, by the fact that American grants to Thailand since 1950 have been in the vicinity of a billion dollars. American presence, both economic and military, is very much in evidence.

The volume now under review is a welcome addition, with a new approach, to the serious literature on a fascinating country. It is an attempt, in the words of the author, "to confront some of the problems involved in political development, with special reference to the role of bureaucracy and bureaucratization in the modernization of Thailand." The research involved was done during a field trip to Thailand from 1957 to 1958. The present work is divided into three parts: "the traditional polity": "patterns of modernization"; and the modernized "bureaucratic polity." The first part is an effort to characterize the traditional Siamese polity in terms of both its typical and its distinctive features. The second part describes some processes of change in Thai politics and administration which occurred between the mid-nineteenth and mid-twentieth century. The third part describes the contemporary Thai government as a fully realized example of what may be called a "bureaucratic polity," a system of government that is neither "traditional" nor "modern" in character. All three parts are focused on problems related to rice, for "everyone is interested in rice in Thailand and the subject has amazing ramifications."

This is a scholarly and useful volume. Obviously, a great deal of preliminary thought and study must have been devoted to the project.

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BERNARD K. GORDON. *The Dimensions of Conflict in Southeast Asia*. Pp. xiv, 201. Englewood Cliffs, N.J.: Prentice-Hall, 1966. $4.95.

The definition of Southeast Asia as a region in more than a cartographic sense has been impeded by the persistence of those elements that have contributed to the separateness and distinctiveness of the individual political units making up the region. Professor Gordon, however, has given us a regional perspective through his examination of the developing patterns of Southeast Asian international relations. The patterns are of regional conflicts and regional gropings for collaboration, both areas of contact heightening intraregional awareness and expanding intraregional communication. It was the author's purpose to examine these patterns as a basis for gaining insight into the conditions affecting Southeast Asia's political stability—a concept that remains undefined in Professor Gordon's study.

The Introduction to the book acknowledges the presence of communism as being one of the principal incentives for accepting a regional approach to Southeast Asia, but the issues posed by the two Vietnams and Laos are not discussed since the author considers the contest there extraregional politically.

Regional conflicts are represented by chapters detailing the Philippines—the Malaysian dispute over sovereignty in Sabah (North Borneo), Indonesia's confrontation with Malaysia, and Cambodia's relations with Thailand and Vietnam. A common element linking these geographically discrete conflicts is that they territorially express a wider complex of foreign-policy meanings in which personality bulks large. A Sihanouk or Sukarno imparts a flavor to their state's relations that is difficult to measure. Professor Gordon advances a tentative theoretical framework to analyze the personality factor in state interactions that has its origins in Fred Riggs' categories of "fused," "refracted," and "prismatic" societies. Unfortunately, Professor Gordon does not adequately develop the applicability of these models to an analysis of the international relations of Southeast Asia. His exposition of the intricacies of the disputes, however, is marked by clarity and perceptiveness.

The second part of the book is concerned with the prospects for regionalism in Southeast Asia. One example which the author has focused on is the Association for Southeast Asia—Thailand, Malaysia, and the Philippines. His rationale for regionalism in Southeast Asia is the associating of the economically and administratively more developed states in the region with the less developed states in the interest of stability. Although overshadowed by the conflicts, co-operation has, in fact, already tended to moderate political extremes. Despite the rapid pace of events in the two Malaysian-centered disputes, Professor Gordon's study remains a valuable contribution to our understanding of the indigenous political dynamic of Southeast Asia.

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MANNING NASH (ED.). *Anthropological Studies in Theravāda Buddhism.* Pp. xii, 223. New Haven, Conn.: Southeast Asia Studies, Yale University, 1966. No price.

I can do no better to describe this timely compilation of papers than to quote the editor: "As studies by anthropologists, they carry some of the distinguishing features of modern theory and research in social and cultural anthropology; as studies on Buddhism they confront an established tradition of historical and textual scholarship; and as studies of the relations of religion and society they explore and venture into a large region of philosophical uncertainty."

The nine papers grapple with aspects of Buddhism in Ceylon—G. Obeyesekere, M. Ames, and N. Yalman—Burma—D. Pfanner, M. Nash, and J. Nash—Thailand—J. Ingersoll and M. Moerman—and Cambodia—M. Ebihara. The papers all attempt extension beyond the village level; yet with the exception of Moerman and Ebihara, the attempt leaves much unexplored. In almost all cases, the articulation of local monks and monasteries to Buddhist regional and national organization is slighted. The studies are primarily derived from and focused on specific localities; generalizations from the specific lead some authors

to treat Buddhism as part of a broader ideological system, in convincing but highly theoretical terms.

Perhaps the editor felt that in presenting the papers the advice of the Dhammapada (4/49) should be his guide: "As a bee, without harming the flower, its color or scent, flies away, collecting only the honey, even so should the sage wander in the village." Lack of a co-ordinating framework of theory, history, or central problem leaves one to wander like the sage, or flit like the bee, from paper to paper. None of the papers are simply the "honey" of empirical data. Individual authors do not always clearly separate description from theory, and one wonders if the "bees" have left the flowers unaffected by their visit. Much that is posited in the volume as internal Theravada variation is, in fact, characteristic of Buddhism per se. Some over-all analysis, if only an extraction of similarities and differences between the Theravada studies, would facilitate comparisons with the few equivalent studies of Mahayana areas.

The volume may bring Buddhist merit upon its authors, for as Dhammapada (9/112) says: "Though one should live a hundred years, idle and inactive, yet better indeed is the single day's life of one who makes an intense effort." The authors have made an effort to reach into a level of Buddhism so often ignored by doctrinal specialists. Their weakness is that they do not "confront an established tradition of historical and textual scholarship;" they simply pass it by. But in turn, they illustrate the need for dialogue with that scholarship if a complex system such as Buddhism is to be understood either *in situ* or *in toto*.

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CLIFFORD GEERTZ. *The Social History of an Indonesian Town*. Pp. v, 219. Cambridge, Mass.: M.I.T. Press, 1965. $7.50.

In this study of the small town of Modjokuto the author is dealing with highly complex and contradictory social material. His task is to trace the town's history—to analyze the interaction of various social and cultural factors over an extended period—and to arrive at conclusions about the characteristic order of the society. To these ends he uses a somewhat unusual method: the "cultural paradigm." This is a symbolic model in terms of which people perceive their society and understand—to some extent judge and regulate—social action.

The book, which covers only two hundred and eight pages but is highly concentrated, contains much material for the general reader interested in social and political problems and in Southeast Asia, but uses some rather technical language. In chapter 5, the social structure in 1953–1954—field-work period—is viewed largely from the angle of political-power distribution and as the author believes the situation appeared to the inhabitants. He sees the two as "permanently transitional"—transitional alone is regarded as a wistful term since the equilibrium to which the system may be moving is obscure. I do not find this a profound paradox. Are not many societies—Western as well as Eastern—permanently transitional in this sense? The atmosphere of confusion in this chapter is supported by many adjectives. In conclusion—an epilogue on proving (sic!) paradigms—a village election is described, and events somehow stand in place of, exemplify, and mystically convince of the essential truth—the epitome—of the town, as he saw it (and the people too?).

Much of this book is highly mystical, and I found it somewhat obscure. The use of rhetoric also blunts the argument considerably. One is not always clear when the people's ideas and the author's appraisals of them are being given. The subjective model is nowhere concisely described but appears in kaleidoscopic pieces. All this makes the argument in some serious sense difficult to accept, but it is nevertheless an exciting book—as a *nouvelle vague* film, the full meaning of which continually eludes one, may also be exciting. Professor Geertz is trying to do something new. As he says elsewhere, he does not want to "retreat into that sweet sense of accomplishment that comes from parading habitual

skills" ("Religion As a Cultural System"). This is head-whirling material but with a message particularly for those sympathetic to the task of breaking through with new methodological weapons.

MARJORIE TOPLEY

Hong Kong

AMERICAN ASSEMBLY. *The United States and Japan.* Pp. ix, 174. Englewood Cliffs, N.J.: Prentice-Hall, 1966. $3.95.

In a collection of essays prepared as background reading for an American Assembly seminar on relations between the United States and Japan, six distinguished scholars in the field present a panoramic view of the subject in various aspects. The resulting volume, *The United States and Japan,* will stand for a long time as a comprehensive introduction to contemporary Japan from the point of view of American interest in that amazing and often baffling country.

The arguments for trying to understand Japan, if any are needed, are summed up in the concluding paragraph of the book by Herbert Passin, Professor of Sociology in the East Asian Institute of Columbia University, who edited the collection and contributed the Introduction and the final chapter. "We must not take Japan for granted," Passin says in conclusion. "She is not automatically in our back pocket out of gratitude for our generosity after the war and the fine democratic reforms we brought her. Nor is she a benighted heathen, doing quite well of course, but still needing a guiding hand to lead her out of the wilderness. Japan is one of the great powers of the world. If we want her as ally or friend, we shall have to work for it."

Events taking place since those lines were written have tended to confirm the Passin analysis. The lead taken by Japan in convening a conference on Southeast Asian economic development, her operative role at the Seoul conference of non-Communist Asian and Pacific states, and the growing independence of Washington displayed at the meeting of Japanese and American Cabinet members in Kyoto were indications of a new breeze from Tokyo in Asian and world affairs.

The sardonic Edward Seidensticker, a leading translator and critic of contemporary Japanese writings, puts the relations between Japan and the United States in perspective with his usual astringent wit. Contemplating the danger of overexposure to Americans, he suggests that "the best thing to do about Japan might be to do as little as possible." Much of his penetrating observation is devoted to deflating numerous myths of and about the Japanese, putting the study on an earthy foundation.

Robert E. Ward, Director of the Center for Japanese Studies at the University of Michigan, analyzes the residual influence of the Japanese defeat and the subsequent long American Occupation. Lawrence Olson, Japanese-speaking veteran Japan correspondent of the American Universities Field Staff, then shows that the Occupation did not change Japan as much as many Americans and Japanese think. A well-traveled and perceptive reporter, Mr. Olson treats in depth the Security Treaty, Okinawa, and other problems of the American-Japanese political relationship.

Myths about the Japanese economy are punctured by Robert E. Lockwood, of Princeton, a specialist on the subject. He shows that the amazing postwar industrialization of Japan is hardly a development of recent years but is rather a product of basic forces that "have been at work over a century or more." There is a trenchant lesson for other Asians in his observation that Japan's success came not from massive injections of foreign aid but "through the unremitting toil of a disciplined nation under determined leadership over three generations."

Kinhide Mushakoji, the only Japanese contributor, points out that "the cold war turned out to be a lucky twist of events since it put Japan in the choice position of needed ally to her enemy of yesterday." The Gakushuin University professor, in a thoughtful essay on Japan's new role internationally, exposes the basic uncertainty of his countrymen as to what that role should be. "We Japanese are, in fact, deeply impressed by de Gaulle's policy," he observes significantly.

ROBERT TRUMBULL

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ALEXANDER ECKSTEIN. *Communist China's Economic Growth and Foreign Trade: Implications for U.S. Policy.* Pp. xvii, 366. New York: McGraw-Hill, for the Council on Foreign Relations, 1966. $8.50.

The effect of Communist China's economic development on her foreign relations may be examined from three points of view, according to Professor Eckstein: (1) the adequacy of the Chinese development model for possible emulation by, and inspiration to, other less developed countries, especially in Asia and Africa; (2) the potential of Communist China in projecting her influence through an extension of her foreign economic relations; and (3) Chinese military capability in relation to her economic growth. In this book Professor Eckstein treats primarily the last two aspects of China's economic development.

The study raises a number of very important and provocative issues. For instance, would the development of an acute food shortage make Communist China more or less inclined to engage in foreign adventure? To what extent is Communist China dependent upon imports for the continuation of steady economic growth through new capital investment? Is Communist China's military potential uniquely related to continued economic success, or is it possible for military capability to be divorced from the continuation of steady growth? Is Communist China vulnerable to external economic pressure? These and many other questions obviously must lead to policy implications for the United States, some of which are discussed in the last chapter.

Eckstein bases his policy discussion on an economic analysis which ranges over the record of Chinese economic performance, the relation of foreign trade to development, and the changing trade and aid patterns. The analysis traverses familiar ground for the specialist, but it is very readable and therefore useful to the nonspecialist public, which is presumably the purpose intended by the Council on Foreign Relations. The author does not, however, appear to hold definite views on certain matters. For example, he seems to equivocate on the question whether an acute food shortage would lead to foreign adventure or not (pp. 3 and 247). Further, he might have discussed the relationship of military potential to economic growth by differentiating various types of warfare and the corresponding different demands on weapons and supplies. If this were done for (1) nuclear-weapons development, (2) preparation for conventional war of the Korean type, and (3) support for "national liberation war" by proxy, different conclusions might be possible. One may also question whether the range of possible economic measures in dealing with Communist China has been fully examined even though one agrees with the author that in the realm of policy, economic considerations cannot be the final arbiter (p. 274). Where political recommendations are reached on the basis of economic analysis under uncertainty and in the light of what one deems probable, judgment and the value system are involved. The reader will have to make his own choice, bearing in mind that a great deal more might yet be said.

YUAN-LI WU
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JOHN LOSSING BUCK, OWEN L. DAWSON, and YUAN-LI WU. *Food and Agriculture in Communist China.* Pp. xiii, 171. New York: Frederick A. Praeger, for the Hoover Institution on War, Revolution, and Peace, Stanford University, 1966. $6.00.

For a review of the economics of agriculture in China it would be hard to assemble a set of authors more impressive than those who put together this volume. This is a first-class review-study, but its period of coverage terminates in 1958 and it is, therefore, a period piece. The four papers were written in 1960 and, although repeatedly refined since then, delayed in publication, so that the appearance of the book in 1966 does not represent research on current developments in Chinese agriculture. The publication of economic information on Mainland China has come full circle. During the early 1950's, the literature published referred to the last years of Nationalist China and to the Com-

munist takeover, but we were told little of current Communist doings. Current analyses then began to appear as scholars learned to unravel Communist domestic source materials. The early 1960's reached a high point of interpretation of Chinese economy into the first year of the Great Leap Forward, but the ensuing statistical debacle dried up the sources. Books continue to appear dealing with affairs through 1958, but again we are being told very little of current doings.

There are four separate studies in this volume, two of which deal with general problems in interpretation of statistical data on agricultural acreage and production. One paper is on the fertilizer problem of Communist China, and the fourth paper deals with developments in irrigation. Buck makes a detailed comparison of pre-1937 statistics in Chinese agriculture with those of the Communist years through 1958. Revealing a series of errors in statistical tabulation by both Nationalist and Communist government agencies, Buck insists that Communist production increases were chiefly statistical prior to 1958, at which point political ideology led statistics astray. The summary tabular data are the chief items of value, the textual interpretation explaining how all this came about. Wu's rather short paper discusses the same problems in somewhat different ways, attempting to evaluate Communist statistical work amidst politically planned agricultural reorganization. Dawson's paper dealing with fertilizers concludes that production will fall short of the requirement needed to boost agricultural output; his paper on irrigation finds that Communist programs so far have not been adequate insurance against bad drought years.

Taken together the four studies add documentation to the body of interpretive knowledge on the state of Chinese agriculture through 1958. Anyone working with the subject must use these materials, for they represent important keys to the understanding of the larger problem.

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GEORGE T. YU. *Party Politics in Republican China: The Kuomintang, 1912–1924.* Pp. xiv, 203. Berkeley and Los Angeles: University of California Press, 1966. $6.00.

In the context of modernization, this perceptive study traces the early experience (1894–1924) with attempts to appropriate and adapt Western political party institutions to meet changing Chinese needs. In his introduction and early chapters, the author explains the effects of China's imperial absolutism permitting only factions at court and in bureaucracy and compelling opposition movements to take the form of secret societies. (Banditry and peasant revolts were other forms.) Threading throughout the work is the further traditional theme: the assertion of personal leadership—chiefly that of Sun Yat-sen—reliant on a personal following.

During the first decade of the revolutionary movement—in the form of the Hsing Chung Hui (Revive China Society)—the secret-society model was used against the Manchu dynasty; this continued to be the nature of the T'ung Meng Hui (Common Alliance Society) until shortly after that regime was deserted and collapsed. Whereas the former organization sought links chiefly from the overseas Chinese and in China from antidynastic secret societies, the latter directed its appeals mainly to students and other intellectuals. Then five such societies or factions formed the Kuomintang (KMT) (1912) as an open but still—in a deep social sense—slimly supported party intent on attaining and wielding national—as well as regional and local—power. It has often been told how Yuan Shih-k'ai's subversion and suppression of politician-legislators attempted to spiral China into another traditional cycle; Professor Yu adds that the weakened, main revolutionary group also retreated to traditional society norms, the rump accepting the principle of absolute obedience to Sun. It was during this Chung-kuo Kemintang phase that the movement reached its nadir and, as during some other periods of exile, might have expired had it not been for support by overseas Chinese and Dr. Sun's determination.

Warlordism was another traditional reality; even after Sun's organization was revised and resumed the name Kuomintang (1919–20), and though it became one of the schools after the May Fourth Movement, great difficulty—and fitful dependence on regional militarists—were encountered in attempting to establish a territorial base in Kwangtung without party-controlled forces. In this regard traditionalism could have been more emphasized.

One of the fresh contributions of this book is to trace the consultations of Sun and associates with a series of Soviet agents leading to the formula of co-operation announced in January 1923. The background is sketched from November, 1920. At first the KMT leaders were cautious, but later their need again became more desperate. Until this alliance and the partial adoption of the Communist Party of the Soviet Union (CPSU) model, the KMT and its precursors had been narrowly oligarchic and often faction-ridden. Subsequently it strove to institutionalize leadership and discipline, to deepen and broaden social support; thus it came to combine modern and traditional features. In his final chapter, the author might have referred briefly to the subsequent phases of Chinese experience with party politics, calling attention to the need for reinterpretation in a continuance of the perspective he used to illumine the early periods.

Although many political data are provided by this book, it does not pretend to be a thorough political history of the generation preceding the KMT-Comintern axis. Sometimes the author selected too rigorously, for example: not mentioning how members of the Provisional Legislative Assembly were appointed in 1911; referring too briefly to the abortive northern expedition of the KMT and allies in 1921; and assuming that readers would know from other sources more about the revolt of Ch'en Chiung-ming in 1922 and more about Sun's quest for assistance from capitalist nations before turning to alliance with the Soviet Union. There are passages before his treatment of this latter stage when the use of phrases like "broadening" the T'ung Meng Hui and KMT "base" might lead to temporary misunderstanding.

On the whole, however, Dr. Yu has written a distinguished interpretation of early Chinese political modernization along the theme of party development. The turmoil and experience of that time provide background to a degree instructive for better understanding of problems confronting more recently modernizing polities.

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YING-HSING SUNG. *T'ien-Kung K'ai-Wu: Chinese Technology in the Seventeenth Century.* Translated by E-tu Zen Sun and Shiou-chuan Sun. Pp. xiv, 372. University Park: Pennsylvania State University Press, 1966. $15.00.

This book, bearing a title which the translators have rendered into English somewhat loosely as "The Creations of Nature and Man," was written by an otherwise obscure Chinese official in 1637, and ever since has remained the most comprehensive treatment of premodern Chinese technology. The major subjects covered in its eighteen chapters include cultivation and preparation of grains, textiles, dyes, salt, sugars, ceramics, boats and carts, mining and processing of metals, calcination of stones, vegetable oils and fats, paper, weapons, vermilion and ink, yeasts, and pearls and gems. Numerous woodcut illustrations admirably complement the detailed descriptions under each topic and subtopic.

The difficulties involved in translating a book of this kind, with its many little-known technical terms, are formidable. Fortunately, the linguistic skills of the husband-and-wife team of translators, coupled with their scientific knowledge—they are both mineralogists at Pennsylvania State University—have enabled them to produce a translation which is both lucid and accurate. Aside from quite a few typographical errors, the Pennsylvania State University Press has given the book a strikingly handsome typography and format.

The book's one real weakness lies in the translators' critical apparatus. Traditionally, an enormous gap separated the intel-

lectual from the manual worker in premodern China; this, very probably, is why, following the book's initial publication in 1637 and another edition a few years later, it was not again reprinted—aside from an eighteenth-century Japanese edition—until 1927. Such a fact at once raises certain basic questions concerning the author: Why should this minor government official have specialized in a field which he himself recognizes (p. xiv) as "in no way concerned with the art of advancement in officialdom"? To what extent did he supplement direct personal knowledge with hearsay information or reliance upon earlier written sources? Who, if not himself, was the creator of the very interesting illustrations? How representative are his descriptions of China as a whole, and how reliable is he? (In a number of places he rather obviously speaks only from hearsay or uncritically accepts popular legend and folklore; on p. 205, for example, he states that after a coal mine has become depleted, its coal will become renewed within twenty or thirty years.) The translators, in their brief preface, fail to come to grips with these and similar questions.

The book's Index and Glossary are likewise overly concise; for example, of the nine names for different kinds of gold mentioned on page 236, only five appear in the Glossary. The Bibliography of works in Western languages is heavily weighted toward Western technology, but has only a sprinkling of items on the Chinese technological counterparts. Concerning the crossbow—discussed on pp. 265–267—for example, the Bibliography lists nothing even though this weapon—with a very remarkable trigger mechanism—is probably of Chinese origin, the invention and spread of which have been discussed in more than one English publication. The translators' footnotes likewise tend to be sparse, silent concerning certain matters of interest or controversy, and uncritical in differentiating legend from history in early China.

Despite these defects—ones more apparent to the China specialist than to the general reader—the translators deserve high praise for the skill with which they have brought to the West this monumental record of the material development of traditional Chinese culture.

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VIDYA PRAKASH DUTT. *China and the World: An Analysis of Communist China's Foreign Policy.* Pp. x, 356. New York: Frederick A. Praeger, 1966. $7.50.

The strength of this book lies in its extensive quotations from Chinese newspapers to illustrate the course of Chinese foreign policy. At the same time, these are also the source of its greatest weakness as the constant repetition of the Chinese propaganda line in the chapters on relations with the Soviet Union, the United States, Africa, and Asia verges on the boring. As in his earlier book, *China's Foreign Policy, 1958–1962,* Dr. Dutt theorizes that dogmatic policies at home were always followed by an uncompromising attitude in foreign affairs and cites many examples to prove this point. While the book is a useful study, events in Indonesia and elsewhere have rendered out of date even the Epilogue of "recent happenings."

Most consideration is given to Sino-Soviet relations, and the chapters thereon form the longest and most interesting part of the book. The attempt is made to prove that Chinese foreign policy, starting from an ideological base of upside-down Marxism—the liberation of the working class by the peasantry—has slid into the traditional framework of power politics because China is power-status mad. Every possible ally, East or West, regardless of ideological considerations is to be sought. The Chinese slogan "Oppressed Nations of the World Unite" favors the national liberation movements of the former colonies of the West and is given precedence over the Russian voice proclaiming "Proletarians of All Countries Unite." The Chinese Communist struggle is no longer against the United States alone but against the Soviet Union as well because it opposes Russian efforts at peaceful coexistence and conciliation with the West. Mao mocks the Russian revisionist attitude and believes that "the contradictions within the ranks of the peo-

ple have become more acute than those with the enemy." In reply, Soviet party theoretician Mikhail A. Suslov is quoted as asking why the normalization of relations between the Soviet Union and the United States, the two great nuclear powers on whose efforts a relaxation of international tension largely depends, evokes such opposition from the Chinese government while it is itself making such feverish efforts to establish relations with Britain, France, Japan, West Germany, and Italy. China has raised the issue of racism in her attempts to exclude the Russians from anti-colonial and left fronts in Asian and African countries. The author believes that the Sino-Soviet split has reached the point of no return, indicating that ideological affinity can bring but not hold people together since doctrine can not override the divergence of national interests.

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CRAUFURD D. W. GOODWIN. *Economic Enquiry in Australia.* Pp. xv, 659. Durham, N.C.: Duke University Press, for the Duke University Commonwealth-Studies Center, 1966. $12.50.

Goodwin examines economic enquiry in Australia from the earliest days of settlement until the onset of the Great Depression in 1929. His study is divided into two main parts entitled "Theory and Policy" and "The Science of Enquiry" respectively.

As Goodwin points out in his concluding chapter, "during the first half of the nineteenth century, mention of 'political economy' in the colonies consisted mainly of veneration for principles developed in the home country" (p. 606). In the second half of the nineteenth century "theory" is to a considerable extent a euphemism for "pamphleteering," for there was little attempt at a distinterested search for economic relationships. There were many issues of economic debate—protection versus free trade, cheap versus dear land, subsidized or nonsubsidized immigration, whether silver should be monetized, and what were the causes of economic fluctuations and particularly of unemployment during the major depression of the 1890's—to name but some of the more important ones. But too often Goodwin is forced to conclude at the end of his survey of ideas on each particular issue: "dominance of the controversy by partisan and unreasonable disputants prevented serious and objective analysis"—free trade versus protection (p. 91); "they met spirited opposition and little dispassionate consideration"—theories of underconsumptionists (p. 256); or "inspirations for proposed reforms (in matters of banking and currency) came from abroad, and local discussion consisted largely of imported arguments" (p. 216).

One of Goodwin's basic theses is stated in his introduction: "A full explanation of economic development requires an analysis of factors that are not susceptible to statistical treatment. Economic ideas, as a strong force driving men to action, constitute one of the most powerful of these factors" (p. xii). This is to some extent shaken by his study which shows us again the extraordinary capacity of man to rationalize, to argue in favor of a course of action which happens to suit his economic or political interests without paying too much attention to the intellectual content of the argument. For the sordid interests of merchants, manufacturers, and pastoralists were seldom far behind the arguments they marshalled in favor of free trade, protection, cheap land, more credit, and so on.

The heroes of the study are "two pioneers of macro economics," Alfred de Lissa and Sir Anthony Musgrave. We are indebted to Goodwin's patient researches for unearthing de Lissa's foreshadowing of the Keynesian multiplier—albeit in a primitive and embryonic form. However, de Lissa did anticipate the basic concept of leakages from the circular flow of incomes in a society where a deficit in a colony's balance of payments will inevitably lead to deflationary pressures—as long as the gold standard is preserved. Sir Anthony Musgrave was an English colonial civil servant who became Governor of two of the Australian colonies in the last quarter of the nineteenth century. In many respects his writings antedate those of Keynes, but as Goodwin makes clear his writings are those of an amateur—isolated

from critical discussion and marred by overstatement, lack of organization, impatient criticism, and unnecessary repetition.

In summary, the book constitutes a valuable addition to our fund of knowledge of early and often forgotten Australian writers on economic matters. However, social scientists interested in the broader issues of the development of economic doctrines are likely to find only de Lissa's and Musgrave's contributions worthy of more detailed scrutiny.

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VIRGINIA THOMPSON and RICHARD ADLOFF. *The Malagasy Republic: Madagascar Today.* Pp. xvi, 504. Stanford, Calif.: Stanford University Press, 1965. $12.50.

Madagascar is a remote and unique corner of the Third World. Geopolitically a part of Africa, but racially more Asian than African, the island's people have no strong affiliation to any region beyond their shores. Their relationship to the colonial power, France, has been peculiar. The Malagasies were at times restive under French rule; more lives must have been lost in colonial struggles on Madagascar than in all of French Africa below the Sahara. Yet today Madagascar is the least decolonized of France's ex-possessions. The French Army is still there; French interests run the economy; and French settlers are numerous and heavy-handed. Even the Ivory Coast looks independent compared to Madagascar.

The encyclopedists of French Africa, Virginia Thompson and Richard Adloff, have now turned their attention to Madagascar. Those familiar with the Adloffs' earlier work—*French West Africa* and *The Emerging States of French Equatorial Africa*—will know what to expect: a clearly written collection of the available background information on the subject; rich in data and conventional in interpretation; and indispensable as a reference work. This last virtue is particularly important in the case of Madagascar, since it is the only such work in English.

The Adloffs react to Madagascar in a way familiar to those who came to the island after years in Africa. They are puzzled, and they admit it, by the contrast between the Malagasies' usual docility and their bloody revolt in 1947. They note the islanders' ambivalent attitude toward mainland Africa. At the Addis Ababa meeting that founded the Organization of African Unity, Madagascar's President Tsiranana pleaded for inclusion of the word "Malagasy" in the organization's name as in the old "Union Africaine et Malgache". To which the Africans replied that if Madagascar was in Africa, the word was superfluous, while if the island was not part of Africa, the Malagasies did not belong in the organization at all.

The most impressive part of the Adloffs' book is the description of Madagascar's political history from the French conquest to the present, with particular emphasis on the last two decades. They are generally fair both to the ruling party, made up of coastal people of African origin supported by France, and to the opposition, made up of the Asian Merina people who ruled most of the island before the French. Thankfully, the Adloffs emphasize the ethnic and historical nature of Madagascar's political conflict; others, obsessed by Communist support of the Merina opposition, have seen it as a Cold War plot.

Most American Africanists show little interest in the rural sector of their area speciality, and the Adloffs are no exception. They accept the conventional view that the main obstacle to rural progress is the obstinate traditionalism of the Malagasy peasantry—rather than, as some of us would argue, the lack of viable and available alternatives to the present agricultural systems. Similarly, the Adloffs accept the shibboleth of education-for-development. They note in passing that the island's stagnating economy is already unable to provide jobs for all its graduates, but they do not go on to question the system that produces such results.

But these are questions for other books. The Adloffs do not claim to be intellectual innovators. They have accomplished what they set out to do: to write the standard English-language reference book on Mada-

gascar. As such, it is a basic text for any student of the island's development.

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GWENDOLEN M. CARTER (Ed.). *National Unity and Regionalism in Eight African States.* Pp. xiii, 565. Ithaca, N.Y.: Cornell University Press, 1966. $10.00.

Professor Carter announces in her preface that this is the third and final volume of essays on a total of nineteen African countries. The first, *African One-Party States,* appeared in 1962 and was reissued in an expanded and updated form in 1964. The second, *Five African States: Responses to Diversity,* was published in 1963. The reviewer, who contributed to that effort, fervently hopes that the editor has no present plans for updating it.

The present volume, as so much factual information about African politics, had been outdated by events even before its publication. The co-authors of the essay on Nigeria, Richard L. Sklar and C. S. Whitaker, Jr., acknowledge this difficulty in a somewhat pathetic postscript written after the first of the two military coups to have occurred in that country between January and August of 1966. John A. Ballard, author of the essay on "Four Equatorial States," was given no such opportunity with respect to the Central African Republic. And Donald Rothchild and Michael Rogin, co-authors of the essay on Uganda, may have been slightly surprised by the coup that ousted the Kabaka of Buganda from his country and his office as President of Uganda.

The other two contributors to the book are Virginia Thompson, whose essay on Niger reads somewhat like a seed catalogue, and Robert L. Hess, whose ninety-odd pages on Ethiopia impressed the reviewer as a brilliant piece of exciting historical condensation, so full of the kind of suspense normally confined to detective stories, that it is likely to arouse great curiosity about its subject among readers.

Professor Hess also joined the editor in writing a very useful general conclusion, which stresses fundamental differences between European and African nationalism, denies that "forces that might seem to make for division" need work exclusively in the direction of division, and anticipates that "the prospect of further political disintegration is not great" in African states.

In her preface, Professor Carter gives us the general rationale behind her enterprise, the "belief that what is most needed at the present time for an understanding of Africa is basic information," so that these essays "provide . . . essential material for the broad comparative studies that remain the goal of social scientists." This particular goal was promoted by giving all co-authors the same general outline to work with. (Unfortunately, however, the Index is useless for comparative purposes.)

Not all the contributors were equally concerned with facilitating comparisons, and no effort was made to create any methodological consensus among them. The co-authors of the Nigerian section, for example, are at times under the unfortunate methodological influence of Gabriel A. Almond and somewhere else cite Khosrow Mostofi as a "discerning author" who conceives of nationalism as "a collective demand motivated by personal predispositions which are the results of environment," a concept which strikes the reviewer as arrant nonsense.

Such lapses do not, however, detract from the general utility of this or the two preceding volumes. Now that the facts have been collected and published, one might express the hope that someone, perhaps the redoubtable Professor Carter, will move on to the next stage of analysis, genuine comparison for the purpose of explaining differences.

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HENRI BRUNSCHWIG. *French Colonialism, 1871–1914: Myths and Realities.* Pp. x, 228. New York: Frederick A. Praeger, 1966. $7.50.

This book is worth examining both for its thesis and for its careful work. It is good to handle a book with a thesis, for a thesis at least provides a sense of direction but in this case, however, at the cost of

coming near to a monistic explanation of the dynamics of French colonialism. French colonialism, he holds, is a product of French nationalism reacting to the disasters of 1870–1871. This view is persuasive up to a point, but it hardly takes account of special interest groups, the factors of adventure and of beneficence and religion. Certainly Professor Brunschwig is right in noting that such strong critics of colonial expansion as d'Estournelles de Constant voted for colonial budgets in 1899; certainly many who complained of the economic and diplomatic costs of colonies did at times support more colonial expansion. To the force of late nineteenth-century nationalism in France, the author could add the practical impossibility of stopping in mid-stream. And the crusty French nationalist and patriot, M. Georges Clemenceau, was a continentalist, but the notable exponent of nationalism and opponent of colonialism appears only once in the Index.

Dr. Brunschwig, who holds appointments at the École Pratique des Hautes Études and the Institute d'Étude Politique at the Sorbonne, has written three books on colonial history. He writes good history. It is not diplomatic history or the history of colonial policy; rather it is the history of colonial forces. Without being lively or theatrical, he produces a style that is readable, understandable, and analytical; unfortunately, some of the references to public opinion are vague, and the headings for some tables are not too clear. He has blessed his readers with an annotated bibliography which makes profitable use of the publications of colonial societies; it is a western European rather than an American bibliography and therefore of special value for American readers. Along with the Bibliography are several graphs of trade statistics and a useful list of the men who headed the administration of the French empire from 1871 to 1914. In one of his stronger chapters the author helps us to realize the roles of French geographers and of private colonial societies in metropolitan France in strengthening the dynamics of French imperialism. Students and teachers who know the basic history of France overseas in the nineteenth century will find this a valuable and provocative book.

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E. A. G. ROBINSON (Ed.). *Economic Development for Africa South of the Sahara.* Pp. ix, 744. New York: St. Martin's Press, 1964. $21.00.

President John F. Kennedy ushered in a new era of American foreign economic policy with regard to Africa: he played for the longer term. Despite occasional pinpricks and disappointments, Kennedy persevered in a policy of selective co-operation. "Stay in close, keep working and wait for the breaks"—this was the hallmark of his position. (See Arthur M. Schlesinger, Jr., *A Thousand Days: John F. Kennedy in the White House.* Boston: Houghton Mifflin, 1965, pp. 551–584).

The volume under review confirms the wisdom of Kennedy's vision. It records the proceedings of a conference held by the International Economic Association, whose series of publications has achieved unusually high standards for symposia. In effect, careful planning and long-run preparation have produced a volume of lasting value. The book contains a treasure-house of basic information, component analysis, and professional discussion marred only by a minimum of opinionated expression. It constitutes an indispensable reference for libraries and students interested in African economic development.

The book consists of two parts. Part One is devoted to background studies of the aims and possibilities of economic development in Africa. Beginning with an exceptionally informative, well-balanced chapter by G. J. Ligthart and B. Abbai of the United Nations Economic Commission for Africa, the volume proceeds with an incisive formulation by E. A. G. Robinson of the key problems requiring analysis. Then follow seven essays on different countries and regions within the continent: brilliantly compact articles on the Congo by F. Bézy and on East Africa by D. Walker; a well-documented, descriptive chapter on the French-language countries by L. de

Carbon; an excessively brief but provocative statement of the problems facing Ghana, Nigeria, Sierra Leone, Liberia, and the Spanish territories by J. W. Williams; an assessment of Angola's economy by L. M. Teixeira Pinto and R. Martins dos Santos; a distinguished analytical-statistical chapter on the Federation of Rhodesia and Nyasaland by W. L. Taylor; and an encyclopedic formulation of the economic development of the Republic of South Africa by C. S. Richards.

Part Two deals with African population problems (J. J. Spengler), labor (O. H. Houghton), education (J. Vaizey), incentives (S. Enke), prices (G. Leduc), capital (S. H. Frankel), asssitance (L. B. Rist), tropical exports (W. E. Moran), trade policy (L. H. Dupriez), commodity stabilization (P. T. Bauer), agricultural development (M. Yudelman), mining economy (Roland Pré), large-scale industry (D. J. Viljoen), small-scale industry (H. W. Singer), monetary and fiscal policy (A. T. Peacock, L. H. Samuels), and the contribution of economic research (W. P. Stolper).

These studies analyze the restraints to African economic development south of the Sahara. The tasks are formidable, variant, and of long duration. Since achieving their independence, most African governments have pursued the objective of rapid economic development with the same sense of urgency that Western powers have sought military security. The overwhelming problems they encounter cannot but lead to disappointments, frustrations, political and tribal turbulence and, in many cases, to military rule. It is precisely because of the longevity and complexity of the issues involved—political, economic, and military—that Kennedy's policy of selective co-operation in Africa has much to commend it. In order to help lay the economic, educational, and institutional foundations for the realities of African self-government, he believed that the United States should maintain a long-term presence; that it should express in word and deed a thoughtful and friendly concern for an ever stronger Africa. If we do not follow his dictum of encouraging each African leader to make progress at home rather than trouble abroad, we shall often "be crossing our bridges after they are burned behind us."

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G. N. SANDERSON. *England, Europe and the Upper Nile, 1882–1899.* Pp. xiv, 456. Chicago: Aldine, 1965. $14.50.

This is a scholarly account, against an African background, of the intrigues of European power-politics in the late nineteenth century. Germany, Austria, and Italy were already in a triple alliance: Russia, France, and Britain were still uncommitted: Leopold of Belgium was playing off one power against another with a fine disregard for contemporary rules of diplomacy, using techniques since perfected by Dr. Sukarno and President Nasser.

Time and again war was only avoided by a last-minute withdrawal. Groups were formed and dissolved, and policies were pursued and abandoned according to the strength of the various pressure groups or the predilections of succeeding statesmen.

England's reluctant occupation of Egypt in 1882 threw a catalyst into the cauldron. France was deeply offended, and England found herself more and more involved. When it came to the pinch, France was not prepared to abandon her claim to Alsace and Lorraine in return for German support on the Upper Nile, but Lord Salisbury readily handed over Heligoland in order to buy off German intervention in Equatoria. It may be argued that this transfer influenced subsequent German naval expansion and helped to precipitate the 1914–1918 war. It all seems fantastically out of proportion when one considers the present condition of the area in dispute—the southern Sudan and the north-eastern Congo.

For the Sudanese historian the book sets local events in perspective against the dimly perceived international influences which shaped them and corrects traditional eye-witness accounts of the reconquest. The author is the first professional historian to turn his attention to Sudan affairs, writ-

ing without the local outlook which has characterized previous chroniclers but with fifteen years in the Chair of History at Khartoum University to protect him against arm-chair errors. If he is to become the classic historian of the modern Sudan, one hopes that he will eschew the current British academic weakness of looking down an Olympian nose at the great men whose struttings he describes and of reserving a special censure for his fellow countrymen.

There is one final comment—how different the map of Africa and the present state of Africa would have been if its frontiers had been drawn and its emancipation controlled neither by the nineteenth-century imperialists nor by the twentieth-century ideologists, but by the men who administered these territories in the interim and whose main concern was a factor ignored by both the other categories—the welfare and happiness of the inhabitants.

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JAN VANSINA. *Kingdoms of the Savanna.* Pp. ix, 364. Madison and Milwaukee: University of Wisconsin Press, 1966. $6.75.

In the minds of most European and American people, African history south of the Sahara began with the first discoveries and movements of the Europeans in the African coastal waters. This was initiated in the late 1400's by the Portuguese; they were followed by a multitude of other nations as the slave trade became the dominant focus of Africa-European as well as Africa-American and Africa-Asian contact.

Prior to this foreign contact, most historians refer to Africa only as the "Dark Continent." They are either unaware of the culture and political systems which prevailed all across Africa for a thousand years prior to the coming of Europeans, or they consider this uninteresting and unimportant.

With the resumption of the control of Africa by Africans in our time, a study of pre-European Africa such as this one, *Kingdoms of the Savanna,* is extremely pertinent. Outside or foreign workers, whether they be educational, industrialists, political, or Peace Corps, should become acquainted with Dr. Vansina's book and with similar studies for other parts of Africa. Even the tourist or casual student of Africana would find his trip or his study much more meaningful and interesting if he knew something of the vast historical and cultural background out of which modern Africa has evolved.

The African political, social, religious, and economic leader would better himself and increase his effectiveness if he would read carefully this study of early Africa to know who he is and from whence his intricate behavioral patterns have come.

Dr. Vansina uses five types of sources as his authority: written records—available only since 1500 A.D.; oral tradition—covering the full scope of African culture since the emergence of man on the continent; archaeological data—increasing in amount as more "diggings" are excavated; and linguistic evidence and ethnographic-anthropological findings.

Based on many years of residence in the "Congo area" the author has compiled a careful study of the history and the movements of the people of the area from the eastern lakes to the Atlantic. There great kingdoms with powerful rulers rose and fell. There, in their early contacts, the local rulers conferred with the European rulers on a basis of mutuality and equality. From there local students went to European universities in the hope of returning to improve their own areas and cultural systems.

Slavery, which took over and dominated the Europe-Africa relationship for three centuries, destroyed what might have been a useful relationship; it accounted for 88 per cent of the total trade with some of the African countries; ivory, copper, or agricultural products served as only poor seconds. It demoralized both the European and the African. Traders, government officials, missionaries, and African political leaders engaged in it.

The political shifts and movements of sixteenth- to eighteenth-century Africa as presented by Dr. Vansina read somewhat like the recent newspaper account of Congo

shifts of power. The author should write another book relating these early years more specifically to current events and developments.

The book would have been a bit easier to read if the author had used English translations for the numerous African words in the text. He has appended voluminous notes at the end of the book; some of these could well have been included in the text.

This book makes a significant contribution to our knowledge of Africa. It should have wide distribution.

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EUROPEAN GOVERNMENT AND HISTORY

ALBERT PARRY. *The New Class Divided: Science and Technology Versus Communism.* Pp. xvi, 364. New York: The Macmillan Company, 1966. $8.95.

The author, Albert Parry, states the objectives and scope of his work very clearly in the first paragraph of his preface: "This book is about the sociopolitical place of the Soviet Union's new scientists, engineers and managers. My purpose is to investigate the possibility that the scientific-technical personnel is essentially a group distinct, or potentially distinct, from the Party zealots and that we may expect an emerging political influence and a rising political role for such technocrats in opposition to that country's Party bureaucrats."

Professor Parry has achieved his purpose clearly, precisely, and convincingly, and he traces in sufficient detail the slow emergence of a new and non-Communist power-elite. The Party, of course, is still in political control, but now, in many fields, it is in full retreat. Ironically enough, it finds itself on the defensive from the very groups it created, educated, and fostered. We can recognize its dilemma better, perhaps, by a parallel event in our own country. Here a number of Fundamentalist sects established colleges only to discover that the college graduates were either indifferent to Fundamentalism or were positively anti-Fundamentalist.

The conflict between Marxism-Leninism and modern science was immanent from the very beginning. Marx himself had set a party line in the science of his time. He accepted only those hypotheses and theories that were in harmony with the future society that he envisaged. Lenin's science was no further advanced and, as the Party's directives in science were open and detailed, the conflict could not be avoided. The Party theoreticians condemned not only Einstein, Mendel, and Darwinian evolution—while praising "Creative Soviet Darwinism"—but also the use of computers and all physiology or psychology that had advanced beyond Pavlov. In each of these fields the Party has been defeated and forced to retreat. Since Stalin's posthumous demotion, the Party hacks cannot win their inevitable arguments with the scientific elite, who now are not afraid to answer back.

Professor Parry has traced the rise of the new intellectual elite in sufficient and well-documented detail. Unfortunately, the footnotes are concentrated on thirty-seven pages, inconveniently placed at the end of the book, but this is the fault of the publisher. More importantly, however, the author is looking towards the future, and he seems to be quite hopeful. To quote (p. 303), "Indeed we cannot overemphasize enough the implacable fact that life is stronger than dogma; that humans can and do break through artificial barriers; that they can and do live outside the rigid structures their moral and intellectual inferiors erect." Professor Parry does not expect an imminent *volte-face,* but his careful and well-constructed study does indicate that the future of the Communist world is brighter than anyone suspected even a few years ago. He warns, however, that the scientific and engineering elite are non-political, and when and if they assume power, they will have their troubles.

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CHARLES J. HANSER. *Guide to Decision: The Royal Commission.* Pp. xiii, 274. Totowa, N.J.: Bedminster Press, 1965. $6.50.

A Royal Commission is commonly regarded in Britain as one of the more ponderous agencies which serve as a guide to decision-making. One suspects that the popular image is that of doddering old men engaged in interminable, pedantic, and futile research. Professor H. J. Laski maintained that on average it took nineteen years for the recommendations of a unanimous report to assume statutory form. Other observers of the British political scene, with grim humor, have regarded the establishment of a Royal Commission to examine any problem as the necessary prelude to a decade of inactivity.

Dr. Hanser in his readable and well-planned book sets out to prove that Royal Commissions play an important role in British politics: their investigatory and advisory work provides a unique and necessary contribution to political freedom in Britain. He accepts that politics involves "the very play of power of different groups" (p. vi). But his thesis rests on his strongly argued case that since democratic politics demands a measure of consensus, relevant facts must be discovered and judgments made by some process which ensures that no particular interest will be dominant. In Britain the Royal Commission provides this process because it is able to obtain "a new level of objectivity" (p. 148) in its examination of issues.

This book provides a general survey of the one hundred and forty-three Royal Commissions which were established between 1900 and 1964, together with studies in depth of a few selected examples. In a balanced evaluation of the work of Royal Commissions in general, the author is not unaware of their limitations. Separate chapters provide a closer analysis of membership, process of work, and the position of the Royal Commission within the British political context. A useful supplement examines the relevance of such a body to the American system of government, and the Appendices provide valuable and relevant statistics.

Despite the extensive use of Royal Commissions in Britain, with three hundred and eighty-nine established between 1832 and 1900, few books have been published on the subject. This volume serves as a valuable introduction to an important aspect of British politics. It will appeal to the general reader as well as to the specialist who may well be stimulated to look elsewhere for a deeper analysis.

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D. C. WATT. *Personalities and Policies: Studies in the Formulation of British Foreign Policy in the Twentieth Century.* Pp. xii, 275. Notre Dame, Ind.: University of Notre Dame Press, 1965. $6.00.

Personalities and Policies is a collection of thirteen essays, six of which have already been published in well-known journals. In the first essay, which is new, the author explains that the essays are to some extent linked by a common theme and thesis. The thesis is that Britain is essentially an oligocratic society in which power is exercised by a minority of its citizens grouped together in a cluster of smaller groups, consistent enough in their membership over time for these groups to be treated not only as a political but as a social phenomenon, and for the characteristics of their social organization to be an essential element in the manner in which they perform their political functions. Discussions within or between members of these groups take place in either private or semiprivate organs of communication, of which there are three categories: the correspondence columns of the quality press, for example, *The Times*; the clubs and institutes of London's intellectual political society, for example, The Athenaeum; and the British Broadcasting Corporation's (BBC) Third Programme. This, of course, is a common statement about British government.

The essays which follow, though interesting and informative, throw little fresh light on this thesis. Perhaps the nearest to do so is the second, entitled "America

and the British Foreign Policy-Making Elite, from Joseph Chamberlain to Anthony Eden, 1895–1956." Most of the others are about the way particular Cabinet Ministers or senior civil servants or other people in authortiy behaved. The last essay is a very useful guide to the British and to some foreign materials for the study of the making of British foreign policy since 1918.

The references to a foreign policy-making elite are rather overdone. Curzon and Salisbury may be included in such a category without straining the usual meaning of the terms, but to include Herbert Morrison and Ernest Bevin and many others because they happened to gain positions of political power is rather odd. If political leaders are dealt with, as clearly they must be, surely it is necessary to analyze the forces that guided their decisions. It is difficult to believe, for example, that Bevin was influenced more by the correspondence columns of *The Times* than by his links with the trade-union world and his labor sympathies.

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England

WALTER Z. LAQUEUR and LEOPOLD LABEDZ (Eds.). *The State of Soviet Studies.* Pp. 177. Cambridge, Mass.: M.I.T. Press, 1965. $7.50.

Originally published in *Survey* (London) in 1964, these eighteen articles scarcely live up to the promise of the title they have been given when collected in book form. A few of them—notably, by T. H. Rigby, Alexander Gerschenkron, and Robert F. Byrnes—are valuable contributions to a critical review of the progress of Soviet studies. The surveys of Soviet studies in France, by Basile Kerblay, and in Germany, by Jens Hacker, provide useful though uncritical listings of important research in these two major centers. It is helpful to have George Lichtheim's examination of "Western Marxist Literature, 1953–1963," even though he has largely restricted the scope of his study to recently discovered materials relating directly to Marx's own texts.

The most valuable part of the volume is that dealing with the "science" or art of Kremlinology. In his "In Defence of Kremlinology," Robert Conquest, author of *Power and Policy in the USSR,* hits back, sometimes with telling effect, at those who criticize his methods of deciphering the secrets of the Kremlin. If anything, Conquest is unnecessarily defensive in his ripostes, and he also has little or nothing to say about the merits or demerits of any Kremlinological efforts other than his own. Alec Nove makes several effective and witty points in "The Uses and Abuses of Kremlinology." On the other hand, "Crypto-Politics," by T. H. Rigby, provides in brief compass a number of important benchmarks for the analysis of the Soviet political system and goes on to point out a number of neglected areas for more intensive study in the future.

In his introductory essay (page 9) the editor, Walter Laqueur, refers to the "astounding" growth of Russian studies since World War II, "especially in the United States," and proposes to examine how it is that "in some respects developments over the last decade or so seem to have gone in the wrong direction" (also page 9). Unfortunately, Laqueur and several of his authors seem to have fallen under American influence, for they have hardly given any clear or consistent picture of what this "wrong direction" is or where it may lead.

American scholarship on Russian and Soviet subjects has matured to a point where it would benefit from a rigorous stocktaking of what it has done and where it should go from here. That stocktaking, promised in Mr. Laqueur's condescending introduction, is, regrettably, not provided in any but a few of the articles that make up this uneven miscellany of penetrating insights and peevish complaints.

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GEORGE D. JACKSON, JR. *Comintern and Peasant in East Europe, 1919–1930.* Pp. ix, 339. New York: Columbia University Press, 1966. $8.50.

Published as one of the "East Central European Studies" of Columbia University, Jackson's study is the outgrowth of a doctoral dissertation. It still bears occasionally the earmarks of a thesis.

The most interesting aspect of the book is the dis ussion of Bulgarian, Yugoslavian, Rumanian, Polish, and Czechoslovakian peasant societies in transition. In all of the above countries except Czechoslovakia, the peasantry constituted the bulk of the total population throughout the interwar era. But the author shows only a casual concern for the daily way of life and economic problems of the East European peasantries. At the same time, he criticizes the Comintern and Soviet Communists for basing their programs for this part of the world on Russian experiences instead of taking note of local conditions. The real protagonists of the study are not so much the peasantries as certain superstructures: the Russian Communist party, the Comintern, the Comintern-created Krestintern or Peasant International of Moscow, the Green International or International Agrarian Bureau centered at Prague, and the Communist and peasant parties of the East European countries.

An ideology of revolution in economically underdeveloped but rapidly changing societies through a collective movement of peasants and urban workers pre-existed the 1917 Revolution among Russian Bolsheviks. After the failure of a successful transfer of power to communism in central and western Europe, this ideology was revived by the Comintern, generally in opposition to the wishes of local Communist parties. But it became official policy only in the autumn of 1923, apparently inspired in large measure by the Bulgarian military coup d'état of June, 1923, which brought down the dictatorship of the Bulgarian Agrarian Union of Alexander Stamboliski. It was then that the Comintern founded the Krestintern.

The Krestintern was most active during the years 1924–1926, when it attempted to woo the peasant parties of eastern Europe. Its successes, however, were very meager, and between 1926 and 1929 it yielded in influence to the loosely organized anti-Communist Green International of the peasant parties. Soviet problems with their own peasantries persuaded many Soviet leaders, chief among them Stalin, of the impossibility of achieving revolution through the use of peasant political organizations. In eastern Europe, moreover, the latter were then being subjected to bourgeois influences, in spite of the persistence of the notion of the peasantry as the repository of all human virtues. Lacking a satisfactory program to cope with the ills of an economically underdeveloped society, the peasant parties of eastern Europe stagnated in the 1930's or declined under the pressure of more powerful political forces and ideologies.

TRAIAN STOIANOVICH
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Rutgers University

MILORAD M. DRACHKOVITCH (Ed.). *The Revolutionary Internationals, 1864–1943.* Pp. xx, 256. Stanford, Calif.: Stanford University Press, for the Hoover Institution on War, Revolution, and Peace, 1966. $6.50.

In October, 1964, an international symposium of scholars met at Stanford University for three days of discussion devoted to Marxist ideology and organizations. The seven essays in this book are revised versions of the papers read on the first day of this conference.

Like most collective works, it is not easy to review. Almost inevitably, the different contributions to the book are of uneven quality. They are also different kinds of papers, ranging from a sketchy survey-history of the Comintern to a monographic investigation of Masonic influences on the First International; and from a discussion of the manifold social and ideological currents converging in the International Workingman's Association (IWA) to the principal strategies imposed on world communism by Moscow. Hence, the book is something of a tour de force, all the more so because it does not deal with a single subject: as the editor himself points out, the three Internationals had precious little in common.

The IWA, as examined by Freymond and Molnár, appears so diverse in the aims, temperament, and origins of its component

groups that one wonders why it lasted even for a few years. The authors convincingly show that this resulted from a temporary convergence of many different interests. Boris Nicolaevsky develops this theme in his study of the pseudo-Masonic lodges within the International. Their attempt to control the organization appears as the last-ditch effort of terroristic conspirators and the Pyrrhic victory won over them by Marx as the assertion of a more modern and mature labor movement.

A survey of the history of anarchism is followed by an interesting debate on the Second International. Niemeyer and Landauer bring out the ideological contradictions within Social Democracy. The former regards them as fundamental flaws resulting from a derangement, for example, from a commitment to false utopian ideals, while the latter more charitably sees them as understandable responses to conflicting pulls and pressures. Moreover, Niemeyer gives Social Democracy a generally negative appraisal because of alleged deplorable effects it had on later history, whereas Landauer emphasizes its positive contributions. This is a very useful debate, in which both discussants seem to have their share of the truth.

Drachkovitch and Lazitch summarize the many reasons which made the Third International a gigantic failure, but then argue that it was not really a failure after all. Moscow, they say, did succeed in building a world-wide Communist movement; her emissaries did bring to all foreign Communists knowledge of revolutionary techniques as well as central control. Against this, one could claim that Communist parties would have been created in any event, and more spontaneously, without the interference of the Comintern; that these parties could have been better attuned to their own political systems, hence, more successful; and that they would doubtless have invented or copied successful conspiratorial techniques. Even the authors concede that successful revolutions were made only where Moscow did not exercise control. Wherever the Comintern was in control, revolutions failed.

Professor Possony, in the last paper, similarly contradicts himself. He shows that the Comintern failed to solve its "contradictions," that it was further weakened by Stalin, and that it controlled its member parties only by emasculating them. Yet he argues that this was done in the interest of Soviet statecraft, without, however, showing the benefits allegedly accruing to the Soviet state. Nor is it clear how he can then argue that, after all, the Comintern served the world revolution well. Indeed, he concedes that it did not survive the war; and his implied argument that world communism arose out of its ashes with renewed vigor because of Stalin's "astute" leadership is probably contrary to facts. More likely, world communism after the Second World War made gains despite the weight of Comintern history, and despite Stalin's leadership. A book on that theme, however, remains to be written.

On the whole, this is a well-edited collection of papers on a respectable level of scholarship. It is a welcome addition to the growing literature on the history of socialism and communism.

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TIMOTHY PATRICK COOGAN. *Ireland: Since the Rising.* Pp. xii, 355. New York: Frederick A. Praeger, 1966. $6.95.

This book is a survey of the last fifty years in Ireland, with emphasis on the last eight or nine years. It is by a first-rate journalist—a rare bird in Ireland—who knows his beat, digs hard for current facts, eschews sensationalism and punditry, understands the art of interviewing, and is gifted with humor, feeling, and good sense. He also has excellent family connections, a primary asset in Ireland for a man who wants to learn who is who and what and why. As a result he offers a lot of information and insights that squads of mere scholars might easily seek and not find. The book is unique for Ireland, and it is bound to be mined and paraphrased by more serious writers for years to come—one may hope, with adequate acknowledgment.

Mr. Coogan's real interest is in the years since what he calls "the Watershed" which he places about 1957. They are marked

by the implementation of the economic development programs outlined by T. K. Whitaker, Secretary of the Department of Finance, and backed with courage and large-mindedness by Premier Lemass. Intimately connected with this, less well-known, and, in Mr. Coogan's view, even more fundamental is the "enormous psychological change . . . in Ireland," which was also powerfully stimulated by the new Ecumenicism and, to a degree hard to appreciate here, by the visit of President Kennedy in June, 1963. This upsurge of vitality is Mr. Coogan's real theme. He handles it all the better because he is so obviously the sort of lively, intelligent man who found the "wisha-God-help-us" frustrations, arrogant provincialism, and disappointed nark that so often characterized the old order suffocating to a fare-thee-well. Yet his present optimism is always tempered by a realistic appreciation of how much remains to be done and on how narrow a foundation. And his depiction of what is passing is illumined by a sympathetic understanding of what the patriot generation had been up against, what they did suffer, and what they did accomplish. He is aware, too, that by no means all that is brash and bouncing is for the best. He wants Ireland to remain recognizable in terms of its own best self.

The first ninety-three pages deal with the entire period from 1916 to 1948. In this part the survey naturally tends to be rather shallow, yet there is some new information and much level-headed comment. The rest of the book discusses the government, foreign policy, the economy, education, culture and society, the Gaelic movement, the Irish Republican Army (IRA), and the North. Here, there is fresh value on nearly every page; the picture drawn looks like the Ireland that I have seen; and in a number of instances I found convincing explanations of what I had observed myself but had not understood. I was the more ready to be persuaded because of the forthright depiction of the Rube Goldberg structure of the school system and by the twice-stated recognition that much of the blame for the IRA can be laid to the idiotic "history" taught in the schools. After that I was even willing to believe that Irish bishops, when you actually meet them, turn out to be rather shy, humorous men. As I say, it is a convincing book.

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LORAINE DONALDSON. *Development Planning in Ireland.* Pp. 156. New York: Frederick A. Praeger, 1966. $12.50.

Loraine Donaldson has produced the long-overdue first serious book on the economic development programs of the Republic of Ireland. While the author will never stand convicted on the count of possession of a literary style, she has at least assembled the basic facts of the Irish economy and the public programs aimed at its enhancement. This she has accomplished with clarity and accuracy despite the severe limitations of research materials. In addition, she has attempted the analysis of one issue: whether the Irish techniques of subsidies and tax exemptions were themselves the best use of available resources to promote the economic growth of the nation.

A country no larger in size than the state of Pennsylvania and with fewer than three million inhabitants, Ireland, nonetheless, exhibits enough of the unique in its development programs to attract more than the casual interest of a handful of specialists. Miss Donaldson's profile study reveals a northern European nation plagued by emigration, lacking in most natural resources save grass, rainfall, and agreeable people, devoid of the managerial and entrepreneurial skills required of modern industrial states, and hampered by exclusion from the continental trading partnerships. At the same time, it is a state with a modern European intellectual and cultural outlook, anxious to modernize without sacrifice of democratic values and institutions.

Ireland's goal is the creation of an economy capable of exporting more goods and fewer people. Her means of achieving that goal here was strongly influenced by the French, yet tailored to Irish social, political, and economic circumstances. Certain of the measures will appear familiar enough: the rationalization of agriculture—larger

farm units, increased use of fertilizers, and greater concentration on exportable commodities; the expansion of the infrastructure through the creation or enlargement of state corporations; and substantial increases in expenditure for education, particularly technical education. But the reader will also discover some relatively fresh departures in the area of tax remissions on profits derived from exports, grants to new ventures capable of export activity, and the attraction of foreign capital, enterprise, and managerial skills.

For this reader, the least adequate treatment was accorded to the politics of planning. Nevertheless, the Irish approach has been successful by almost any standard one would care to apply. On this ground alone, the book is recommended reading for those interested in the literature of economic development.

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RALF DAHRENDORF. *Gesellschaft und Demokratie in Deutschland.* Pp. 516. Munich: Piper, 1965. No price.

This book on the course of social and political modernization in Germany promises to be a classic on its subject. The author is one of the leading young sociologists of western Germany, and he has presented some of the ideas of this book in previous writings. Germany, Dahrendorf argues, developed differently from the Western democracies, because of several major difficulties rather than because of defects of a hypothetical national character. The industrialization of Germany, the author contends along with Thorstein Veblen, was belated and too rapid to break down the old authoritarian society and produce a liberal civilization as it had done in England. The breakdown of traditional social cleavages and the rise of a truly egalitarian, participant political culture have been inhibited by the determinism of social, religious, and regional group-membership and by the reluctance of people to take control of their lives and to play their participant roles. German women, unskilled workers, farmers, and Catholics are distinguished most by their unmodern attitudes amidst a modern civilization of waning social barriers. Dahrendorf perceives the popular fear of social conflict and competition as a third major problem of German modernization. A pervasive theme from judicial procedure to the economic market place, the German fear of conflict, or search for utopian harmony, has ominous overtones when applied to labor-management relations or to party politics. The author also discusses the changing nature of German social elites and voices some doubt about the capacity and sense of responsibility of the present "power elite."

The fourth problem of political modernization in Germany is pinpointed as the private value system which is typical of the German bourgeois tradition. Germans value private virtues more than public virtues and, by implication, tend to withdraw from the arena of political conflict and co-operation to an aesthetically more satisfying world of family life, friendships, introspection, and art, separated by an illusionary wall from such barbarisms as Nazi genocide, wartime atrocities, or some current hospital or police practices in Germany.

What then has been the course of German modernization, bearing in mind the barriers and obstacles encountered? Dahrendorf argues persuasively that it was the totalitarian interlude which painfully broke the log jam of social modernization. Thus it was possible for German postwar society to develop along substantially liberal-democratic lines, although pockets of traditionalism can still be found.

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HERMANN EICH. *The Unloved Germans.* Translated from the German by Michael Glenny. Pp. 255. New York: Stein & Day, 1965. $6.95.

Hermann Eich, since 1958 the editor in chief of the *Westdeutsche Zeitung,* has written an able, well-argued defense of his fellow Germans. His technique as an advocate is marked by his readiness to cast some blame on those he defends, thus making possible a more thorough exculpa-

tion. It is particularly significant that Eich's rationale is, in the words of the American publisher, "acceptable to thousands of Germans today."

In presenting his case, Eich views a broad panorama of German history, especially that of the late nineteenth and twentieth centuries. It is impossible, in a brief review, to present a thorough, nit-picking analysis of Eich's intricate arguments. Suffice it to say that while many of his individual points are reasonable, and while others are at least plausible and worthy of discussion, his ultimate judgments are more questionable.

Of greater importance, though, is Eich's failure to confront what should be the fundamental question: What were the elements in German history and in the attitudes of the German people which made possible what happened after 1933? We have come to an awareness of the forces of destruction present in the heart and minds of men. And while we acknowledge that these forces exist in all men and nations, it is not to indulge in "racism-in-reverse" to point out that it was in Germany that the "Revolution of Nihilism" reached its apogee.

From the study of history men can gain some further insight into their own nature and perhaps achieve a greater ability to avoid the errors of the past. But these goals can be attained only if the study is undertaken with the desire to understand, rather than the will to explain away. Eich writes that "self-examination is now the inescapable lot of the Germans," but his self-examination—and that undertaken by many of his fellow countrymen of the past two decades—is more an attempt to explain away and to exonerate than it is an effort to reach deeper levels of understanding.

The Unloved Germans is thus both fascinating and frustrating reading. It is fascinating because of the skill with which Eich argues his case and as an example of an attitude common to many Germans; frustrating because it provides no new or more profound answers to troubling questions.

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HARRI REINERT. *Vermittlungsausschuß und Conference Committees.* Pp. 238. Heidelberg: Karl Winter Universitätsverlag, 1966. DM 32.

A Berlin doctoral thesis, this eminently competent study testifies to the quality of political analysis promoted today at academic centers in West Germany. The author has placed in juxtaposition the legislative Mediation Committee under the Bonn Constitution and its American counterpart, the Congressional conference committee. In tracing parallels and noting contrasts he could rely on the fine library of the John F. Kennedy Institute at the Free University, thereby substantially reducing the necessity of drawing on materials available to him only as quoted by other writers on the shelves. He had, moreover, the guidance of a distinguished mentor, Ernst Fraenkel, who, ever since his return from the United States, has been a bridge across the sea, broadly effective in many ventures, including his stewardship of the German Society for America Studies, in whose series Reinert's book has appeared. Happily, also, both the Friedrich Ebert Foundation and the Volkswagenwerk Fund, together with the Social Democratic party, proved willing to contribute to the cost of research and publication.

A brief historical survey of committee machinery designed to overcome discrepancies between the two parts of bicameral legislatures serves as an introduction. It is followed by a description of the structure and operation of the Congressional prototype, which the author, given to a soberly practical perspective, evaluates in more positive terms than do most American students of the legislative process—"despite some objections . . . an indispensable instrument of intercameral harmonization" (p. 104). Greater space is given to a treatment of the German *Vermittlungsausschuss,* where Reinert makes good use of personally obtained information from participants as well as parliamentary records. It is not to slight his intellectual achievement when one says that here the strength of the presentation lies in the exemplary care expended on bringing together widely scattered evidence. For this

reason alone the scholar using the book would have welcomed an index, although partial compensation is offered by a fairly detailed table of contents.

In looking for the actual origin (1949) of the Mediation Committee concept the author came upon some proof of a link to the United States (p. 111). But for a "house of the states," as is the German second chamber—Federal Council—to a much larger extent than the United States Senate it might have been expected that the Mediation Committee—one and the same for the whole session—would turn primarily into a "law-improving" device, from the angle of the Federal Council (p. 121). A related point is the frequent presence of state chief executives on the Mediation Committee as members of the Federal Council (p. 173). Interestingly, this fact appears to work as a significant safeguard against the danger that the Mediation Committee might offer an "invasion gate" for pressure groups (p. 183).

The concluding section puts the American and the German committees side by side for a concise comparison under twenty headings. Here the remarkable oddity emerges that in the Mediation Committee the Federal Cabinet plays a very feeble hand when the opposition members of the first chamber find an ally in "state solidarity" (p. 192). Even so the German device, according to the author (p. 199), has shown its worth by its performance.

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THEODORE A. COULOUMBIS. *Greek Political Reaction to American and NATO Influences.* Pp. x, 250. New Haven, Conn.: Yale University Press, 1966. $7.50.

Present-day official Greek-American association began in 1947 with the announcement of the Truman Doctrine in his famous "Aid to Greece and Turkey" speech to the joint session of Congress. This followed the announcement from the British Ambassador in Washington that Britain could no longer provide aid to support Greece and Turkey as she had been doing.

From then on, the United States was in Greece in a big way. The author sketches in detail the development of Greek-American relationships and dwells especially on what the Greeks thought, said, and wrote about them during the period from 1950 through the early 1960's. The big picture is clearly outlined. It shows that Greek participation in the North Atlantic Treaty Organization (NATO) was due to American-British orientation of the dominant political leadership. It traces the American influence on the operation of Greek government, especially the adoption of the single-member district system in place of the "simple proportional" election method that had impeded Greek politics and government for many years. It points out that the conservatism and stability of the government during this period was based upon this election procedural change.

Other questions which reflected the mercurial ups and downs of Greek public opinion about the United States were the installation of American bases in Greece, the amount of money that the Greeks should raise for their share of the joint military and economic program, the Cyprus affair, the use of nuclear weapons in Greece, and lastly the conflict between the government of Premier Papandreou and the new King Constantine.

Of major interest is the author's delineation of the respective stands, attitudes, rationalizations, and pronouncements of the various political parties representing the conservative, center, and left-wing persuasions. Greek political leaders are nothing if not vocal; they are positive and often brilliant; and they know even before a breeze is felt by the ordinary observer how the wind will blow in the near future. During this period, even the most radical Communistic leadership was not immoderately anti-American, while the rest of the nation seemed happy with the economic prosperity, governmental stability, and military protection brought by the Greek-American partnership.

Of course, nothing is permanent; many

deep-seated problems remain. The Greek economy still cannot function alone, although increased tourism is helping, especially Athens. The big bear and his smaller playmates are still over the mountains. The Kingdom as a governmental system is by no means generally accepted, and the Communists in Greece are still watchfully waiting for another big chance. So it appears that the Greek-American partnership should continue.

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ROBERT ARON. *An Explanation of de Gaulle.* Translated from the French by Marianne Sinclair. Pp. xiv, 210. New York: Harper & Row, 1966. $4.95.

Robert Aron, who in recent years has contributed much to the understanding of contemporary French history, attempts in the present essay to explain the personality and political motives of General de Gaulle. Aron describes de Gaulle as a history-minded statesman and patriot whose paradoxes are almost as bewildering to Frenchmen as to foreigners. The general owes his quick rise to power, for instance, to the disobedience of his "superiors" in June of 1940, but he demands absolute obedience from all under his authority. He has remained faithful to the Republic, but he has made no secret of his contempt for professional politicians. De Gaulle's notions of republicanism have in the past led him to by-pass the people's representatives by the skillful use of the referendum. And, though a man of honor, the general's concept of political action has nevertheless permitted him to deceive people for "reasons of state."

In domestic and international affairs the general customarily distinguishes between the period of search for a decision and that of executing it. According to Aron, de Gaulle is quite capable of acting at the decisive moment contrary to all previous indications. The by-now classic example of this ultimate reversal of a publicly announced objective has of course been the general's policy with respect to Algeria. The clue to this conduct can be found in the general's *Memoirs* in which he expounds the theory: "In human endeavors, due to a long and slow effort, a sudden, unique spurt may be achieved in different and disparate spheres."

Aron traces de Gaulle's difficulties with American presidents ever since Franklin D. Roosevelt to very fundamental differences regarding the role of France in the contemporary age. De Gaulle wants France to be on a footing of equality with Great Britain and the United States in world affairs and to play a leading role in Europe. Having failed to accomplish these goals, he has steadfastly opposed the North Atlantic Treaty Organization (NATO) as an attempt on the part of the United States to perpetuate its domination of the world. By dramatizing his differences with the United States, de Gaulle hopes ultimately to secure for himself a prominent place in history as the mediator between the two power blocs opposing each other. Perhaps, through his initiative and resourcefulness, their present impasse may be overcome.

It is regrettable that the distinguished author did not develop the themes of his essays in a more systematic and profound manner. Nevertheless, this is a stimulating and readable book.

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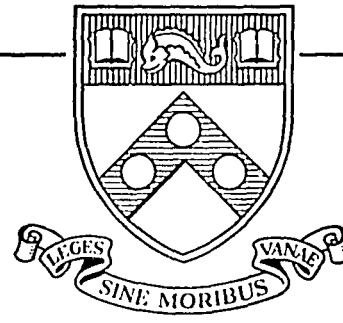
GEORGE LICHTHEIM. *Marxism in Modern France.* Pp. ix, 212. New York: Columbia University Press, 1966. $6.75.

In his fundamental work, *Marxism: An Historical and Critical Study* (1961), George Lichtheim concluded that Marxism disintegrated as a system once the certainties of the bourgeois economic and political order of the nineteenth century were destroyed by the catastrophes of 1914 and the rise of European totalitarianism. Marx's effort at the fusion of theory and praxis failed when the society it was based on vanished. Lichtheim has now examined in detail the particular course of this inevitable disaster in France from the Third until the Fifth Republic. Lichtheim



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CIVIL DEFENSE

A symposium presented at the 1965 Berkeley Meeting of AAAS. Arranged and edited by Henry Eyring. 144 pp., paper, July 1966. $4.00; AAAS members' cash orders: $3.50.

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NORMAN J. PARMER, Special Editor

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is a very good historian, and his mastery of the literature of contemporary Marxist discussion is extraordinary.

The contradictions encountered by a genius in the creation of an original system do not lessen his achievement. For his disciples, however, such problems become unsurmountable; lesser men trip over difficulties that a master by-passes with grace. Lichtheim has meticulously recorded every slip, tumble, and fall taken by the French followers of Marx. The options between evolution and revolution, freedom and coercion, patriotism and internationalism, and working-class solidarity and national unity were entertained with dexterity by Marx. His heirs found each decision exhausting, provoking them to despair, discordance, and desperation.

Yet the success of the French Communist party (PCF) in holding the allegiance of the working class is considerable. The PCF has, according to Lichtheim, presented itself as the ecclesiastical guardian of the revolutionary promise of salvation. Paradoxically the theology of this ecclesia has grown despite the collapse of its inherited theories of state and society, of science and sociology, and of class war and revolution. But while Marxian discussion and self-criticism flourish in France, the achievements of the planned economy render this inquiry less and less real. The modern bureaucratic elite have proven, once again, what Tocqueville observed a hundred years ago concerning the bureaucratic function in the Old Regime. Governments and economic systems may wither away, but bureaucracies do not disappear. After each historical crisis they alone appear more adaptable, more functional, and more efficient. Lichtheim believes that the rationale of modern planning has made the sophisticated bureaucrat immune to any ideology based on lingering bourgeois and proletariat tensions. He hopes, however, that the historically defeated tradition of Marx will nevertheless continue to protest against man's alienation in the most accomplished of planned societies.

Lichtheim's book may be compared to Kant's *Religion Within the Limits of Reason Alone*. After Kant the traditional logic of Christian theology was clearly seen as absurd, and the whole theology should not have survived. Yet that system of belief did continue and even transcended some of its logical imperfections. Perhaps Marxism in France will enjoy a similar experience and prosper despite Lichtheim's critique of Marxism within the limits of reason alone.

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DAVID MALAND. *Europe in the Seventeenth Century*. Pp. xiii, 466. New York: St. Martin's Press, 1966. No price.

Recent research in economic, social, and demographic history and synthetic articles in *Past and Present* have created the need for an up-to-date general treatment of the seventeenth century. Mr. Maland is aware of much of this work, but he fails to employ it to proper advantage. One fourth of the book is devoted to economic, intellectual, and cultural history and the remaining three-fourths to narrative political history. The chapter on "Economic Development" is hopelessly inadequate. Overpopulation, famines, plagues, and the end of inflation are mentioned, but little effort is made to relate these developments to society and politics except in the most elementary fashion. Industry is assumed to have expanded slowly, and the decline of the overseas trade of the Spanish, and probably others, is ignored. Chapters on the scientific and intellectual revolutions are better in spite of a few errors and a failure to emphasize the importance of Pyrrhonism. Baroque art and architecture are discussed, but literature is ignored.

The chapters on political history are uneven. Recent social-economic research on France is not integrated with the narrative of political events. There are numerous errors and sins of omission. The reader learns with surprise that the administrative functions of the governors were transferred to the *élus* (p. 145) and is almost completely spared from a treatment of the origin and role of the intendants. Favored by good recent syntheses in English, Spain, Sweden, and Brandenburg-Prussia are more adequately discussed.

England, Italy, and Germany after 1648—except for Brandenburg-Prussia—are ignored. In short, this book does not meet the need for a new treatment of the century and may be safely forgotten by specialists.

To do justice to the author, however, it should be pointed out that he apparently intended his book to serve primarily as a text in English secondary schools. Viewed in this light it must be admitted that American high-school students are given poorer and much leaner fare in European history. In spite of its many faults, college professors now using Ogg's history should consider replacing it with this well-written work.

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E. A. GUTKIND. *Urban Development in the Alpine and Scandinavian Countries*, Vol. II. Pp. xviii, 499. New York: Free Press, 1965. $25.00.

As befits a series planned to include eight elegant volumes, with perhaps four thousand separate illustrations, at a cost of about two hundred dollars to the purchaser, the International History of City Development has been well advertised by fine brochures indicating both the content and the motif of the series. It was with clear conscience, having first scrupulously read every word and examined every illustration in Volume II, and written the first version of a review, that the present writer turned to compare his version of the book with its advertised qualities. It was something of a surprise to find Gutkind and his publishers claiming dramatically that the books were precisely not what they had obviously seemed to be, that they were not haphazard compilations of extraordinarily unrelated and disjointed items of fact, only occasionally relieved and enlightened by a generalizing or summarizing comment.

"Dr. Gutkind has produced a work of *imaginative* scholarship," his publisher maintains with italicized emphasis. Above all else, it was the precise quality of imagination that the volume had appeared to lack. Rote recitation of the most mundane sorts of historical and demographic material pervades the volume. If there is a theme, it appears to be that noted in a discursive comment, a rare departure for the book, concerning the city of Bregenz in Austria: "This involved history," says Gutkind after reciting Bregenz's biography, "is an almost unsurpassable lesson in incongruities and their influence on the cause of events. In this case it shows how a town grows to a certain importance in spite of an unfavorable situation and lack of any special qualifications. Neither history nor nature has endowed Bregenz with any outstanding advantages." The same idea is brought to bear on Swiss settlements, which are said to show that "irrational regularity and regular irrationality played an equivalent role in the origin and development of the towns and villages."

Perhaps it is this underlying conviction of the almost totally erratic pattern of urban development that dictates the inclusion of a parade of trivial information seemingly more suited for preparation for a quiz program than for understanding of the history of urban development.

The early material on the Alpine countries is considerably sharper and better presented than the Scandinavian material, where the author appears much less at home and more dependent upon abstracting a few secondary sources. Cities, Gutkind points out, result from the "manifold interactions of economic and political considerations and functions," a view hardly arguable, nor particularly enlightening when the relative importance of such considerations under given conditions or at various times is never adequately spelled out.

Besides recurrent growls about particular urban plans that deeply offend him, Gutkind will occasionally say a kind word or two about one or another urban area, though he obviously disapproves of the whole idea of cities. The most lasting impression upon this reviewer is that he must somehow get to see Bern, an "Ideal City," one where "all the ideals of city development were expressed in a mature language of form." Otherwise, the Gutkind volume creates no wanderlust, nor even a nostalgia for a more bucolic past, but only a vast wonderment at the vigorous pedanti-

cism that will ultimately give birth to eight hefty tomes.

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J. K. HYDE. *Padua in the Age of Dante.* Pp. xii, 350. New York: Barnes & Noble, 1966. $8.75.

Since World War II, research in urban history in medieval and Renaissance Italy has concentrated upon the relationships between economic, social, and political phenomena. The studies of Herlihy and Cristiani on Pisa, of Fiumi on South Gemignano, and of Heers on Genoa have established a mode of historical investigation and analysis which has greatly expanded our knowledge of Italian towns. This book on Padua differs in some respects from the prevailing tradition; it is less solidly based upon economic data, and it focuses particularly upon social problems. Its distinguishing characteristics include a thorough mastery of the archival and printed sources, a lucid writing style, and a gift for formulating historical problems with clarity and precision. The author relates Padua's experience to the broader story of Lombard urban development; his introductory description of that development (pp. 9–26) illustrates his remarkable talent for concise and coherent summary.

The book's first section, a social analysis of the governing class, is its most valuable and original portion. After discussing the demographic background, the author then describes the groups which comprise this urban society. He notes the relative insignificance of the mercantile element in a city which did not engage intensively in international trade and the preponderant influence of noble families with roots in both town and country. Hyde particularly emphasizes the importance of lawyers and notaries in Padua. This profession was perhaps the most important corridor for upward social mobility, and its practitioners were the strongest supporters of communal government, as well as the main creators of Paduan culture. Using as his main source the *De Generatione* of Giovanni Da Nono, the author reveals how this society viewed itself and also how loose and flexible were the categories—nobility, knighthood, profession, and guild membership—by which Paduans structured their social world.

In the final section on "The Governing Class in Action," Hyde defines his objective as "the elucidation of the nature of Paduan society as demonstrated in political action and organization" (p. 194). This part is less successful than the first; the sources are uninformative, and Paduan politics in this period (1256–1328) are often so chaotic as to defy coherent description. Some points emerge clearly: the importance of family and faction in the city's political life and the precariousness of republican institutions and values. But mystery still surrounds those forces and trends which promoted communal government and ultimately contributed to its demise. It is to the author's credit that he has clarified so much, in constructing this lucid and informed analysis of urban development in late medieval Italy.

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POLITICAL THEORY

RICHARD L. MERRITT and STEIN ROKKAN (Eds.). *Comparing Nations: The Use of Quantitative Data in Cross-National Research.* Pp. xv, 584. New Haven, Conn.: Yale University Press, 1966. $12.50.

During the past decade comparative studies in the social sciences have undergone a considerable metamorphosis. One of the most striking and significant dimensions of this change has been the increasing emphasis placed upon systematic comparisons employing quantitative data in cross-national research. Several recently published data volumes and the growing number of books and articles which draw upon survey and/or aggregate data in making cross-national comparisons are indicative of this development.

Much of this newer work has been con-

cerned with research methodology. This volume, a part of a series entitled "Tools and Methods of Comparative Research," reflects this continuing concern for methodological issues; but it also includes a few papers which make substantive contributions toward the development of empirical theory in comparative research. It is a collection of papers presented at a conference on the use of quantitative political, social, and cultural data in cross-national comparisons held at Yale University in September 1963. They are grouped under four main rubrics which reflect the major concerns of the conference: (1) issues of theory and method in the development of data programs for comparative research; (2) problems of availability, quality, and comparability of data for cross-cultural and cross-national research; (3) variations within nations, the choice of units for comparison, and the relationship between intranational and cross-national comparisons; and (4) current and future plans for international action to advance comparative research.

As with a county-fair grab bag, one finds that there is a little bit in the volume for everyone. Scholars engaged in systematic comparative research will be most interested in the articles in Parts Two and Three, especially those by Scheuch, Linz and de Miguel, Allardt and Alker, and Russett. Those involved in teaching courses on comparative analysis will find many of the essays throughout the book of considerable value in explaining to students both the more general issues of theory and method as well as in presenting evaluations of research progress and problems to date. Finally, several of the essays in Part Four will be most helpful to those who may be contemplating organizing their own data-gathering programs or centers.

One looks forward, hopefully, to a possible companion volume solely concerned with substantive contributions to empirical theory based upon systematic cross-national and intranational comparative research using quantitative data.

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CARL J. FRIEDRICH (Ed.). *Revolution.* Pp. x, 246. New York: Atherton Press, 1966. No price.

Professor Friedrich's volume has a substantial share of merits which this symposium—a difficult literary form—offers. Variety of views, approaches, and issues challenges the reader.

In his introduction the editor stresses the need for a method of effective change, "to make possible recurrent adaptations of institutions and processes of political order to evolving values, interests and beliefs." (We may add an effective social, economic, and political change.) George Pettee suggests a rather general typology of revolution, based on his early well-known work, and discusses the revolutionary process. The question which is raised in other essays is "what is a revolution, what kind of revolution," rather than how do revolutions start, how do they move in a dynamic social process, and how do they occur, although some of the questions are answered in terms of a critical review of de Toqueville's and Marx's theories.

The first issue answers the late Professor Schrecker in a thoughtful essay, discussing the meaning and origin of the term and comparing social and scientific revolutions. Analogy is a risky logical device. He indicates correctly, however, the fundamental significance of changes in scientific thought. Two conditions are essential in defining a revolution: "the change shall affect fundamental laws, secondly, the change shall be illegal under the very law it abolishes." A revolution is a basic change in generative principle, a break in "historical continuity." Where is then the continuity of mankind? Schrecker answers: in the very idea of civilization.

Systematizing de Toqueville's ideas on revolution, scattered in his various writings, Paul Richter gives an illuminating general survey of his theory. De Toqueville's key concept is the contradiction between political and social-economic order and revolutions. In a penetrating discussion Professor Richter writes that de Toqueville never answered fully the question of mutual relationship of the role of ideas, social-economic conditions, and "passions"—today's "psychological factors." His views on those

three variables changed continuously. Perhaps no one did answer that question; maybe there is no final answer to it, and this keeps our discussion going.

Falk discusses the international dimensions of modern revolution, and Macpherson and Halpern discuss ideology and the revolutionary trends in the developing countries. Tucker in a balanced essay on Marxian revolutionary deas stresses the largely overlooked humanist aspects. Braybrooke's critical evaluation of Tucker's essay closes the volume. He may be mistaken when he writes that "neither West nor East has yet given enough thought to Karl Marx. For a century libraries are filled with pro and con books, evaluations and digests, commentaries."

The volume is more concerned with ideas and concepts than with facts derived from actual experience or observation—perhaps the essay about de Toqueville has this feeling for "direct reality." It is more philosophical and reflective than "operational." The latter orientation explores empirically the field of revolutionary situation, strategy and tactics, organization of revolutionary struggle, and ideology—values and objectives.

Carl Friedrich is correct when he says that "there is no end of ideologies." It seems to me that science is nothing else but an idea-system, an ideology of our times. De Toqueville, who had rather an ambivalent view of revolutions, argued that they are less apt to occur in free societies. A well-chosen sentence by Melvin Richter could be applied to the nineteenth century: "I find the absolute and systematic denigration in our time of what is called 18 century philosophy to be as blind and foolish as the infatuation it once produced among its admirers." But some political philosophies of our times produced extermination, forced-labor camps, and unexpected humiliation of human dignity, of a person.

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JULIUS STONE. *Human Law and Human Justice.* Pp. xxiii, 415. Stanford, Calif.: Stanford University Press, 1965. $10.00.

Professor Stone's book describes the principal theories of justice, or the answers to two questions which have been given in the stream of Western thought from the ancient Greeks to modern times: "What ought law to do for the men whose conduct it governs? What is the Standard or measure or criterion of goodness in Law?" The volume is the second in a trilogy, standing between a treatise on the processes of juristic reasoning—"Legal System and Lawyers' Reasoning"—and the concluding essay on "Social Dimensions of Law and Justice." Professor Stone is concerned both with classification and analysis. The unity of this second volume is obscured somewhat, despite an intricate pattern operating on many levels, because of the condensed, although learned, separate treatment of each approach to justice and the ensuing controversies and because the essays are cast in the form of segmented numbered sections, as indeed was the case in Professor Stone's earlier work. Two questions give coherence and focus to the inquiries: To what extent are the standards of justice supported and justified by logical analysis? To what extent do these standards constitute a meaningful approach to modern social problems? Toward the conclusion of the book, the author, perhaps in response to his own skepticism, after working through the various schools and structures, contributes the suggestive metaphor of enclaves of justice and also sets forth certain material precepts of justice "as indubitable for our generation of men."

Theories of justice, Professor Stone concludes, are emanations from enclaves of justice occupied by a group. An enclave is "a complex of attitudes and roles and expectations, and attendant values, stably manifest in concrete segments of the group's arrangements and activities." The concepts of justice, which will have different meanings at different times, reflect the inner equilibrium for ground held within the enclaves—a combination of accepted values, social arrangements, and law and will be defensive or offensive as to matters on the unstable peripheries. This is a dynamic view of law and justice not reflected in the prior analytical treatment of the struc-

tures of juristic thought, but arising as a commentary upon them.

In setting forth his own suggested quasi-absolutes for this generation, Professor Stone gives primary emphasis to the right of every man to set forth and articulate his own interests. This is basically a procedural right but with substantive overtones. Yet, as the author states, this does not determine, as a substantive matter, how far and on what conditions the law should give effect to such interests. The recognition of a response to the interest is more a matter of the meaning of the concepts of a current enclave. Socially approved distribution of advantages and socially approved arrangements and values occupy strategic positions in the quasi-absolutes. Perhaps it should be added, in a modern world of violence, self-help, and extra-legal measures, the question of what constitutes the appropriate minimum procedural channel for communication of interests requires similar change, consensus, and determination.

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MANCUR OLSON, JR. *The Logic of Collective Action: Public Goods and the Theory of Groups.* Pp. x, 176. Cambridge, Mass.: Harvard University Press, 1965. $4.50.

Mr. Olson attacks the view, which he regards as "widespread throughout the social sciences," that groups will tend to further the common interests of their members because—with unimportant exceptions—group-organization and group-action are themselves products of common, rationally recognized self-interests. He points out that, in so far as it is possible to obtain the benefits of group-action without paying the costs, the rational self-interested individual will try to do so. His analysis of this possibility and its logical consequences involves a distinction between "private goods," whose distribution can be restricted to the actively contributing members of a group, and "common, collective, or public goods," which can not be made available to particular persons without also being made available to others. Consideration of this distinction, combined with a distinction between the characteristics of large and small groups, leads to the conclusion that "the larger the group, the less it will further the common interest" (p. 36) and the more it must depend, for its existence and support, upon coercion or "separate incentives."

The members of a small group, according to Mr. Olson, are most likely to recognize a common interest and voluntarily share its costs. But in a large group, individual assessments of the goods sought differ greatly; the importance of any one member's support is imperceptible; it can not restrict to contributing members the collective goods that it provides—for example, a high price-level for manufactured goods or farm products, a high wage-level, police protection, and national defense. Therefore, it must coerce members into supporting it and/or attract them by providing private goods extraneous to the avowed collective purpose. Since "the union member, like the individual taxpayer, has no incentive to sacrifice any more than he is forced to sacrifice" (p. 91), large trade unions must secure arrangements for compulsory membership and compulsory dues, just as the state must collect taxes by coercion. The large farm organizations, not having achieved power to coerce, must cultivate "separate incentives." Evidence from labor, professional, business, and agricultural organizations makes a convincing case for the thesis that their lobbying activities are "by-products" of organizations whose existence and support depend upon "some function in addition to lobbying for collective goods" (p. 132).

Mr. Olson presents a formal logical model, in terms derived from economic theory. This, he says, is the way in which he should expect men to act, if they pursue their interests rationally; he also shows that, in various organizational situations, they do act in this way. But there are difficulties in his theory, presented as a general theory of groups. He briefly deals with "certain small groups," but concentrates on large ones; giving little attention to the multitude of groups between, he does not demonstrate that group-qualities are directly proportionate to size. He al-

ludes to federations of groups, but—oddly—treats them as exceptional (pp. 62–63). His model fails to account for the social roles of ideological and "reference" groups. His summaries of contemporary group-theory, as developed by Truman and others, are remarkably oversimplified.

The book suggests a fresh approach to group-theory; but it remains only suggestive.

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GORDON MILNE. *The American Political Novel.* Pp. xi, 210. Norman: University of Oklahoma Press, 1966. $4.95.

This is not the first study of the political novel, but it is the latest and, as indicated by the title, deals exclusively with the American novel. So limited, the book is comprehensive in its coverage, noticing apparently every novel written in the United States about some aspects of American politics over a period of almost two hundred years (1774–1965). In other words, well over a hundred novels are mentioned, and a substantial number are carefully summarized, analyzed, and evaluated. The treatment is chronological, by periods (1774–1865, 1865–1900, 1900–1920, and 1920–1964); and the author's method is to sketch the historical background of each period, to notice the situations or problems generally of interest to the novelists of the period, and then, in selected novels, to show how the novelist deals with his subject. Some attention is even given to the literary merit of these political novels.

Although most of the novels studied are lumped together by periods, Mr. Milne, in three separate chapters, gives special attention to the novels of Mark Twain, John De Forest, Henry Adams, Winston Churchill (the American), David Graham Phillips, Robert Penn Warren, Edwin O'Connor, and Allen Drury. Most political novelists are not among the top literary figures, being interested in particular problems of government and politics rather than in artistry of expression; but a surprising number of political novels have been written by outstanding writers—such as James Fenimore Cooper—nine political novels—Hamlin Garland, William Dean Howells, Edith Wharton, Robert Herrick, Gertrude Atherton, Lionel Trilling, Sinclair Lewis, John Dos Passos, and Robert Penn Warren.

The particular problems noticed in these novels naturally vary somewhat from period to period, but corruption and the need of reform are treated in almost all of these. As Henry Steele Commager rather aptly remarked, "Politics was thought worthy of literary treatment only when ostentatiously unworthy"; and, as Mr. Milne himself puts it: "The modern political novelists, like their predecessors, then, are bent upon exposure, exposure of the corruption in federal, state, county, and city government revealing that the bosses, the lobbyists, the corporation executives, and the office holders themselves pursue a cynical course. The few idealists in view are usually thwarted, the 'people' remain in the background either hoodwinked or indolent, and reform, if it appears, is not lasting. . . . The novelists themselves do not emerge with solutions, other than repeating their predecessors—'better' men must 'go in for' politics, the worship of mammon must cease, the sleeping people must awaken and substitute idealism for the shaking of the plum tree, and action for a lazy acceptance of the *status quo.*"

The book is well done, thoroughly readable, and has all the appurtenances of sound scholarship—explanatory footnotes, an extensive bibliography, and a good index.

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MILTON R. KONVITZ. *Expanding Liberties: Freedom's Gains in Postwar America.* Pp. xvii, 429. New York: Viking Press, 1966. $8.95.

Notwithstanding the self-imposed limitations of the title, the author depicts postwar—and relatively ancient—developments of freedom not only in America but throughout the world. All historical forces, he writes, from the Bible to recent legislation, "make a seamless web" and "are all part of an endless process." Herein are at once the beauty and the defect in his—and in any—analysis of the march of freedom: Over

a long term, the evolution of freedom and justice is a process of advance and retreat, and parts of the web are destroyed as other new seams form.

For example, the author finds great gains—treated as finalities—in the battle of censorship. But even prior to publication of the Konvitz work, the Supreme Court in *Ginzburg* took more than one step backward. Though eternal vigilance be the price of liberty, liberty is not eternal.

So far, I may be carping. Konvitz does magnificently bring order into seemingly chaotic postwar constitutional development, with frequently original and often brilliant legal analyses. The over-all trend towards increased liberty, some aspects of which would have been unthinkable a decade or so ago, is depicted with the skill of a constitutional lawyer who has mastered all aspects of constitutional law, interwoven so as to make the entire tapestry of constitutional development at once not merely visible but understandable.

But there are defects. For one thing, there seems to be an overemphasis upon vintage precedents—sometimes overanalyzed—with comparatively little attention being paid to the social and political events which helped shape the judicial thought of their—and our—times. Thus, the Alger Hiss case rates only a page and McCarthyism some two pages. And the author tantalizes: "We cannot here pursue the painful story of McCarthyism" except to a limited extent—why? Because "we are too close to these events to be able to evaluate them," as the author indicates in a related connection? If so, why evaluate even more recent developments? Similarly, Konvitz writes that "the complex problems involved in the Fifth Amendment privilege cannot be explored here." Why?

One suspects that Konvitz is more the legal than the social historian. But others have developed social history. If Konvitz is occasionally guilty of minor—and insignificant—inaccuracies and if his mastery of rhetoric occasionally approaches the mystical—as in his identification of obscenity as working towards a definition in the material itself, the configuration, the *Gestalt*—his over-all masterful survey of a score of years of vastly expanding liberty makes a unique contribution to that liberty itself.

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AMERICAN GOVERNMENT AND HISTORY

V. O. KEY, JR., with the assistance of MILTON C. CUMMINGS, JR. *The Responsible Electorate: Rationality in Presidential Voting, 1936–1960.* Pp. xxi, 158. Cambridge, Mass.: Harvard University Press, 1966. $4.00.

This work by the late V. O. Key, Jr. is certain to be a provocative one among his fellow political scientists. Some will challenge his heavy reliance on data gathered by the Gallup Poll, and others will be uncomfortable by his challenge to some of the modern theorists' reviews of the influence of nonrational factors on voting behavior. It is a book also likely to be read by nearly all nonprofessional observers of American electoral politics. Notwithstanding large numbers of tables, the language is not technical, and the ordinary lay reader and political functionary will have little trouble following the major tenets of Key's arguments and his interpretations of data. The author anticipates the criticisms which might come from methodologists and is careful in explaining his use of the poll data and admits awareness of its limitations. Dr. Key died before completion of the manuscript, and Milton C. Cummings, Jr. deserves credit for finishing it and applying the same techniques and format to the analysis of the 1960 presidential election.

In his own style Key tells his readers at the outset that "the perverse and unorthodox argument of this little book is that voters are not fools. To be sure, many individual voters act in odd ways indeed; yet in the large the electorate behaves about as rationally and responsibly as we could expect, given the clarity of the alternatives presented to it and the character of the information available to it"

(p. 7). Voters in presidential elections are divided into three categories—*standpatters* who cast ballots for the same party's candidates in two successive elections, *switchers* who moved from one party's candidates to the other in successive elections, and *new voters* who did not vote in the preceding election. He studies the characteristics and policy views of each group. Switchers are seen as more numerous than popularly believed, consisting of one-fifth to one-eighth of the electorate—in 1960 the distribution was 67 per cent standpatters, 19 per cent switchers, and 14 per cent new voters.

Perhaps two of the most significant conclusions will prompt wide discussion and re-evaluation of data and theories. First, the author sees the voter "as a person who appraises the actions of government, who has policy preferences, and who relates his vote to those appraisals and preferences" (pp. 58–59). Voters judge retrospectively what has been done and are not attracted to promises of the novel. Secondly, the switchers who, of course, perform a major role in bringing about changes and adjustment are not, as some modern theorists have asserted, the least admirable, educated, and interested in politics. Rather the shifters have about the same interest in politics as the standpatters, who have often been regarded as having a high interest in politics. New voters, however, do have less interest than the other two.

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ANDREW M. SCOTT and MARGARET A. HUNT. *Congress and Lobbies.* Pp. xv, 106. Chapel Hill: University of North Carolina Press, 1966. $4.50.

This publication is a report on the findings derived from interviews with a sample of the membership of the House of Representatives, the Eighty-ninth Congress, second session. Forty-nine members, designated "House leaders," were excluded from the study. A sample of forty members, using a table of random numbers, was chosen for the interviews.

Because of the time factor and other handicaps, only thirty-four interviews were actually completed—approximately 8 per cent of the entire membership or 9 per cent of "the universe" (p. 382). All of the interviews were conducted by one of the co-authors. An interview schedule was prepared and used, and other precautions were taken to insure the consistency and integrity of the study. The interviews, scheduled for thirty-minute periods, ranged from fifteen minutes to three hours. Many of the questions were open-ended. This type of question retained greater freedom of response to the congressman, but admittedly created problems for the analyst.

The study was undertaken to test some of the widely accepted concepts—"folklore" —of influence and pressure on the Congress or, more precisely, their significance in the legislative process. The questions used in the interviews were designed to elicit responses from individual congressmen covering such topics as their susceptibility to influence and pressure, their perceptions of influence-peddlers and their methods and techniques, the congressman's reactions when hints of pressure were exhibited, the number and frequency of contacts, and the importance of the special-interest groups in legislative decision-making.

On the basis of this study one may at least view with some measure of distrust the conclusions reached by many students of the American legislative process in which the reader is led to believe that legislators are the captives of the interest groups and that the legislative process is powered by pressures alone. In a generalized sense this study demonstrates a high degree of independence and representative integrity in a large majority of individual congressmen, and implies that, because of the complexity of the legislative setting and the multitude of informational sources, the benefit of the doubt should be accorded to the minority who reveal some degree of pressure susceptibility.

Surprisingly, few of those interviewed felt that interest groups were harassing or obnoxious. They were inclined, rather, to attribute to the interest group a role in the legislative process—the role of "providing information, opinion and support." The

consensus is that the interest groups know that they rarely "have the capacity to coerce legislators . . . the congressmen know it . . . the rules of the game have been defined." Accordingly, congressmen, on their own testimony, rarely feel pressure.

The study stands in refreshing contrast to the many critical "pressure theses" with which we have been bombarded. Admittedly, this is an exploratory study. It appears to have been prepared with care and caution. Whether or not its conclusions are sound will be determined by other and broader studies. May other scholars have the courage to try!

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JOHN H. FENTON. *Midwest Politics.* Pp. viii, 244. New York: Holt, Rinehart and Winston, 1966. $3.95.

THOMAS J. ANTON. *The Politics of State Expenditures in Illinois.* Pp. viii, 286. Urbana: University of Illinois Press, 1966. $6.75.

What criteria, standards, or values suggest to book review editors that two books should be considered together, this writer does not know. John H. Fenton's *Midwest Politics* and Thomas J. Anton's *The Politics of State Expenditures in Illinois* are both about states: five midwest states in a presumed comparative study and one state in a depth study. From that point on, any resemblance between the two books almost stops. Mr. Fenton is casual to say the least in methodology, precision of language, and documentation. Mr. Anton is most self-conscious in all of these ways. Mr. Fenton's book appeals to me as reasonably good journalism. But I cannot imagine a journalist spending the time needed to write Mr. Anton's book.

John H. Fenton starts with the hypothesis that Michigan, Minnesota, and Wisconsin have been issue-oriented states whereas Ohio, Indiana, and Illinois have been job-oriented states—Anton probably would agree with this classification for Illinois—and proceeds to suggest some of the background of how they arrived as competitive two-party states with these differing orientations. The book is highly frustrating reading with a mixture of casual or no documentation for numerous statements to some attempts at statistical analysis. There is a glibness in the writing, questions of fact and interpretation, and quite different patterns of data and information presented—for example, the Michigan chapter says almost nothing about Michigan history or politics before 1948 whereas the Minnesota chapter spends more than ten pages on historical development of politics there. All in all, in this reviewer's judgment, the analysis does not meet careful standards of modern political science scholarship.

Anton has attempted to follow Parsons and Shils' analysis of system and roles in examining expenditure-authorization decisions in Illinois. This is an unusually careful analysis and detailed description of what went on in Illinois in expenditure authorizations made in 1963. One comes away knowing an enormous amount about individuals, institutions, and groups at that point in the history of the state. Nevertheless, this is a case study of a single state in a single-legislative session and a study with a narrowly defined focus. Generalizations do not come forth easily either to the author or to the reader. Very important questions seem neither to be raised nor answered. In fact, the description of Illinois-expenditure decisions leaves something of the vision of a modern art "happening." What is it and why? There is after all other art; and there are after all other systems of making state-expenditure decisions. The insistent question recurs. Why is Illinois so haphazard in its housekeeping, paving the way for manipulation, corruption, deals, and the like quite beyond anything one could imagine in the general decision-making in state government in large sister states such as New York or California or in neighboring states such as Wisconsin or Minnesota?

Mr. Anton might well argue that the above are my questions not his; that he was empirically testing only what understanding he could bring to Illinois-expenditure decision-making by attempting to place all the

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descriptive data he could find within system and role theory. I would agree that by his knowledge and sensitivity to system and role theory he has, in many respects, set forth a fuller and more careful description of the Illinois process than he might otherwise have accomplished. Nevertheless, his systems and role-theory concepts fail to take him far enough in explanation of what he finds, and his last chapter with its normative framework seems inadequate and even inappropriate in the context.

In all, a little of Mr. Fenton's freewheeling might have improved Mr. Anton's study, just as a large dose of Mr. Anton's carefulness would have added immeasurably to the value of Mr. Fenton's.

CLARA PENNIMAN
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JOSEPH E. KALLENBACH. *The American Chief Executive: The Presidency and the Governorship.* Pp. xii, 622. New York: Harper & Row, 1966. $9.50.

The office of chief executive as it has developed down through the history of the United States may well be one of the most significant contributions this nation will make to the art of statecraft. Some British political scientists are impressed with the tendency of the British prime ministership to resemble more and more the American presidency, and of course, de Gaulle's Fifth Republic borrows much from our executive institution. Likewise the developing nations are in many cases adopting a presidency patterned to a significant degree on our model. As Professor Kallenbach rightly recognizes, there is more to the American chief-executive office than the presidency: the governorship is also a significant contributor to our experience—both early and late. Indeed, the best aspect of this volume is the clear demonstration of how much the colonial governor and the early state governor contributed to the formation of the presidency both in the Constitutional Convention and in the shaping of the presidential office by its first occupants.

This book is, regrettably, better in conception than it is in delivery. It contains far too little conceptualization and analysis of the operational aspects of both the presidency and the governorship. There is an excessive concern with the formal structure of the chief-executive office—with form, procedure, specific powers, and the like—and not enough attention to the operational realities in the fashion of, say, Richard Neustadt in his *Presidential Power.* Another book that treats the presidency in the categories employed by Clinton Rossiter in *The American Presidency* is hardly needed.

But even so, if the author had brought the office of governor under close scrutiny and careful comparative analysis with the presidency, the resulting work would have been a ground breaker. Unfortunately, he did not. The materials on the governor are thin, and the comparative analysis is almost entirely lacking. In chapter after chapter the governor's office comes into the picture as little more than a shadow. Perhaps the most telling proof of this is to be found in the "Epilogue" where the governorship is barely mentioned in the author's summing up of his findings. Part of the reason for this shortcoming is of course the paucity of materials available on the governorship at least as compared with the presidency. There is more available, however, than has gone into the preparation of the present volume.

DUANE LOCKARD
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CABELL PHILLIPS. *The Truman Presidency: The History of a Triumphant Succession.* Pp. xiii, 463. New York: The Macmillan Company, 1966. $7.95.

Cabell Phillips of *The New York Times'* Washington Bureau has written an intelligent and immensely readable book about the presidency of Harry Truman. It is by far the best work yet on that administration.

Mr. Phillips quotes with obvious approval Sam Rayburn's famous remark that Truman was "right on all the big things, wrong on all the little ones." This has, of course, become a common practice: to consider Truman as a quite remarkable

president. Truman, Phillips writes, was always ready to carry the weight of responsibility; if he could defend a Harry Vaughan he was also capable of taking on the imperious MacArthur or vetoing McCarran's pet but vicious "internal security" bill. And indeed, Truman's creative contributions to United States foreign policy in 1948 and 1949 will be long remembered. Phillips ignores Truman's role in the establishment of the State of Israel, but surely that courageous act, over the opposition of many State Department professionals, was indicative of the high purpose and ability of a man everyone originally thought to be a second-rater.

There is one important flaw in this book. Phillips is too unfair with Truman's critics. For example, he concludes that the President acted as wisely as possible in ordering the atom-bomb attack on Hiroshima. Critics, he writes, are guilty of "20-20 hindsight. . . . Truman made this great decision . . . forthrightly on the basis of the best information available at the time and cleared his conscience of any remorse" (p. 61).

Yet, thirty-eight pages later he notes that at the Potsdam Conference, Forrestal handed Truman "copies of intercepted Japanese code messages to Ambassador Saito in Moscow, indicating that Tokyo was ready to accept almost any surrender that would preserve some shred of the Emperor's divine integrity." Phillips makes no attempt to reconcile the two statements. He never raises the troublesome questions that have come up since August, 1945. He does not mention the doubts of General Arnold, Admiral Halsey, and Secretary of State James Byrnes. Was it designed to intimidate Russia to keep them out of the Pacific War? Were there any viable alternatives? Nothing is said of these. Nor is there any explanation of why Truman permitted Nagasaki to be hit. And perhaps the death of a hundred-thousand people in this, the most brutal of centuries, can only be classified as a small item of little concern, but surely even Truman's Public Relations (PR) men should have warned him to show a little public regret over the mutilation of Japanese children.

Despite this sometimes too starry-eyed view of Truman's role, this book is a superior example of perceptive journalism.

MURRAY POLNER
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GRAHAM ADAMS, JR. *Age of Industrial Violence, 1910–15: The Activities and Findings of the United States Commission on Industrial Relations.* Pp. xii, 316. New York: Columbia University Press, 1966. $8.50.

Professor Adams has written a careful, thoughtful, and thorough account of the Commission on Industrial Relations—the conditions that brought it into existence, its work, its findings, and its accomplishments. As the title indicates, the Commission was a product of industrial unrest and violence and the desire of the Progressives to investigate its roots in order to find "scientific" remedies. The author describes the major findings of the Commission in its hearings on the *Los Angeles Times* explosion, the strikes of the Paterson silk workers, the New York garment workers, and the railroad employees, the Ludlow massacre, and the revolt of the California migrant workers.

An outstanding feature of the book is an analysis of how the conflicting forces in American industrial society reacted toward the idea of the Commission itself—its composition, its activities, and its conclusions. Adams thus reveals the basic attitudes of these groups toward the problem of violence and its cure, as well as the more fundamental issues of the nature of American society, the class struggle, and the programs of reform or revolution.

A most interesting chapter is the one in which Adams, basing his views on the findings of the Commission, punctures the myth of inter-class harmony—a view held by academics and propagated by employers to justify their privileges. He finds that both employers and workingmen had a high degree of class consciousness, class solidarity, and a conviction that their interests could be defended and advanced only by a militant struggle against the "class enemy." In this chapter Adams also examines the origins of the state police forces, which were used by employers "as a weapon

in their war against union labor. In place of its expensive quasi-legal private regiments, capital had gained an efficient military force, financed by taxes and invested with public authority. State policemen in the role of strikebreakers, the Commission declared, had acted as an incitement rather than a deterrent to violence."

The major conclusions drawn by the Commission were that industrial violence had its source in four basic conditions: the unfair distribution of wealth and income, widespread unemployment, the unjust deprivation of the rights of workers by the government, and the denial of labor's right to organize. The author concludes this valuable contribution to labor-history by tracing the results of the Commission's work in terms of improving labor's public image, dramatizing the injustices in America's social system, the training of a cadre of researchers, reformers, and administrators, and the enactment—then and subsequently—of remedial labor-legislation, including the Wagner Act.

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SEWARD W. LIVERMORE. *Politics Is Adjourned: Woodrow Wilson and the War Congress, 1916–1918.* Pp. 324. Middletown, Conn.: Wesleyan University Press, 1966. $7.50.

On October 25, 1918, Woodrow Wilson called for the return of a Democratic Congress, thus repudiating his earlier plea that "politics" be "adjourned." Casting doubt on Republican patriotism, his statement raised a chorus of opposition and ultimately defeated the Democrats at the polls. So runs the "myth" which Seward W. Livermore now challenges. In reality, politics had never ceased; Wilson's appeal was simply one incident in a severely partisan campaign; and the defeat was the result of more substantial concerns, especially dissatisfaction with Congressional obstructionism and the failure to control cotton as well as wheat prices. In clean, crisp prose Livermore chronicles the events between 1916 and 1918 that explain this outcome. The result is a clearly ordered account of struggles on the national and local levels, in Congress and within the political parties. Analyzing these conflicts and the election itself, the author draws on a whole range of newspaper and manuscript sources and discusses "politics" in a no-nonsense tone that reflects his own experience as a scholar-in-government, with the State Department and later with the Central Intelligence Agency (CIA).

Despite its merits, however, this study is neither entirely convincing nor as much fun to read as it should be. Throughout, it is marred by a too exclusive concern with a "myth" that many historians never accepted, even before the appearance two decades ago of the author's fine analysis of the price-control issue. Since changes of "partisanship" were frequent in 1917–1918 and in later Wilson literature, precise definitions are needed. But "partisan" action is here too easily confused with controversy of any sort, whether sectional, class, or personal, or with the natural antipathy between the executive and the legislature. And allegations by the press or participants are too often taken as proof that partisanship existed. Quarreling there was, but this compendium of charge and countercharge fails to prove that, despite Theodore Roosevelt and Lodge, either inter- or intra-party demands shaped policy or performance in any major way. Nor, despite a single-minded devotion to "politics," does it tell as much as it might about the impact of wartime issues on the future shape of American politics. Although the summary tabulations of voting statistics provide help on some questions, the need for even closer analysis of them remains. The "myth" provides a focus at once too permissive, because the broadside attack on earlier accounts fogs important contributions on individual points, and too restrictive, because "politics" is a blunt tool for dissecting personal motives in a time of crisis. No one and nothing fool the author, whether it be Roosevelt's bluster, the "sheer hyperbole" of Wilson, the "patriotic derby," or pacifist ideals. Unfortunately, with complexity of motive there also exists much of the drama inherent in the story.

For detailed information about politics

in wartime this comprehensive study is invaluable. Historians will nonetheless continue to discuss Wilson's behavior during 1918, the conflicts that occurred as a decentralized democracy lumbered to battle, and the many other things before and after the election that contributed to the "tragedy of Versailles" and Republican triumph in 1920.

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ROBERT C. BANNISTER, JR. *Ray Stannard Baker: The Mind and Thought of a Progressive.* Pp. xiv, 335. New Haven, Conn.: Yale University Press, 1966. $7.50.

Professor Bannister presented this study as his doctorate dissertation at Yale several years ago and did additional research before expanding it into this book. It is a valuable contribution to the increasing number of treatises on American intellectual history. To an unusual degree Ray Stannard Baker's education and development reveal the changing "mood, style and world view" of our country, 1880–1920 and later.

Born in the Midwest in 1870, Baker grew up in a house of books. He read widely in English and American classics, in history, in natural history, and in religion. He was an avid reader of current periodicals also. From his early years in school he took his lessons seriously. Reared in a strict Calvinistic atmosphere, he soon stressed morality over theology, and brotherly love became his life-time objective.

In 1885 he entered the Michigan Agricultural College and graduated four years later with more high honors than anyone else in his class. He taught school for a brief time, then attended a law school for a short period before quitting to become a journalist. His first reporter's job was for the Chicago *Record* where he wrote human-interest stories. He trekked with "Coxey's Army" and sent back interesting accounts of this group. In his articles about the Pullman Strike and in defense of Eugene V. Debs he gained a wider audience.

The author points out that there was a discrepancy between Baker's sympathies and the reforms he supported. He favored the "genteel" reform groups including the Municipal Voters League and the Civic Federation. Baker became interested in writing for magazines and was determined to write about what he knew in a style of "noble simplicity." In 1898 he left Chicago for New York and a job on the staff of *McClure's*. As a pacifist, Baker opposed the Spanish-American War, but he wrote excellent sketches of Theodore Roosevelt and General Leonard Wood. In fact, Baker became one of Roosevelt's reporters on the life of struggle and turmoil.

As one of the Muckrakers, Baker disliked the ruthlessness of "Big Men" but lauded their achievements. By 1902 he had become a progressive. He believed in social Darwinism, but he soon saw individualism replaced by group activities in both capital and in labor. Baker's articles on labor brought him journalistic distinction. By 1904 he had turned his attention to the railroad problem. The railroads, to Baker, were "highways of Commerce" and therefore subject to public control, if not public ownership. He was sued for libel for his articles on the railroads, and *McClure's* paid the fifteen thousand dollar fine.

In 1906 Baker and several other Muckrakers left *McClure's*, and for several years they published the *American Magazine*. It was also in 1906 that Baker, using a nom de plume, began to write the David Grayson *Adventures in Contentment Series*, which were to appear for thirty-five years, to be published in nine volumes, and to sell over two million copies. Grayson was an idealist, a moralist, and a spiritualist. According to Professor Bannister, Baker and Grayson worked for years in "uneasy harmony" because the two disagreed on such concepts as democracy, radicalism, reason, and science.

By 1912 Baker had left his Whig-Republican political heredity to become an Independent Democrat. Although he saw signs of a Wilsonian Progressive Millennium, he remained skeptical. Indeed, Wilson's mediocre appointees worried Baker, and his

negative attitude toward social justice awed David Grayson's creator. From 1914 to 1917 Baker traveled the pathway from pacificism through preparedness to acceptance of war.

In 1918 Wilson sent Baker to England to ascertain British opinion toward America and its President and to report regularly to the State Department. Baker remained in Europe to head the American press bureau during the peace conference. With a brief intermission in the early 1920's Baker spent from 1920 to 1939 doing research on and writing about his hero—Woodrow Wilson. As in his early writings Baker saw in Wilson the struggle between the ideal and the real. Wilsonian idealism was pitted against European realism. Wilson, said Baker, never led world opinion but he expressed it. So devoted was the biographer that he belittled all Wilson's opponents. Baker's enthusiasm for his subject caused him to mistate facts and to reach illogical interpretations. Ill health forced him to use documents almost entirely in the last two volumes of his *Woodrow Wilson: Life and Letters*. No longer is Baker's monumental work on Wilson regarded as definitive, as Baker hoped it would be.

Professor Bannister's book is scholarly and well documented. It has an essay on the references and an accurate index. Both author and publisher are to be congratulated on a job well done.

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PAUL SIMON. *Lincoln's Preparation for Greatness: The Illinois Legislative Years*. Pp. xv, 335. Norman: University of Oklahoma Press, 1966. $6.95.

Abraham Lincoln's political career began in 1832 when he ran unsuccessfully for election to the Illinois legislature. Two years later, however, he was elected to his first of four consecutive terms in the state House of Representatives. Lincoln's eight years as a lawmaker not only provided him with his initial political experience but also, as the author of this interesting and important study points out, with "an effective working knowledge of how the political world runs." In view of the great flood of Lincoln books, covering almost every conceivable aspect of his life, that have been published during the last century, it is strange that no one has heretofore subjected Lincoln's first political experience to close scrutiny. It is appropriate that Paul Simon should now do so, for Mr. Simon is a member of the same legislative body in which Lincoln sat, elected first to the Illinois House of Representatives in 1954 and now sitting in the Illinois Senate. His comments on Lincoln's performance as a legislator are in large part drawn from his own political knowledge of state lawmaking. The study also reflects a wide and sound use of primary sources as well as a careful, meticulous analysis of Lincoln's role in the legislative process.

Fortunately for the scholar, Mr. Simon has chosen not to judge Lincoln uncritically nor to read, as some writers have done, Lincoln's later greatness back into his early efforts as a member of the legislature. Lincoln, he concludes, was an above-average legislator, certainly not a distinguished one. In summary, Mr. Simon notes that Lincoln's legislative record was generally favorable to agriculture, sympathetic to the problems faced by business, poor in relation to economy, not particularly good in the field of education—"he generally voted against legislation which would have moved the schools ahead"—compassionate for the poor, and favorable to "most moves for higher taxes." The author does not spare Lincoln in his discussion of the passage of the Internal Improvements Act of 1837, a program that saddled Illinois with a crippling debt—without achieving its goals—that was not finally liquidated until long after Lincoln's death. "Viewed from the perspective of the present," Simon comments, "Lincoln was almost always wrong" on the subject of internal improvements. It should be pointed out, however, that in the 1830's, he had a great deal of company. On the other end of the scale, the author has high praise for Lincoln's pronouncements against slavery. Considerable space is devoted to an analysis of the charge that Lincoln bartered votes for the internal improvement system in return for support to the measure to move the state capital to Springfield, in Lincoln's home county.

The book details Lincoln's role in the legislature down to its most trivial aspects, which in places makes for somewhat tedious reading. Inasmuch as Lincoln scholars have sought to account for virtually every minute of Lincoln's life, this detail is probably not inappropriate. At least, it is all here, and it adds up to a complete picture of a fairly neglected period of his career. The value of the work would have been enhanced by more attention to the larger issues of political organization and development during this very critical period. Political life in Illinois at this time was influenced by a strong mixture of local and national problems, and Lincoln, as a politician of increasing stature, was in the thick of it. Paul Simon's contribution to the Lincoln record, nonetheless, is without question.

ROBERT W. JOHANNSEN
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HARRY L. COLES. *The War of 1812.* Pp. ix, 298. Chicago: University of Chicago Press, 1965. $5.95.

In this tidy little volume Professor Coles traces the diplomacy, narrates the campaigns, and analyzes the forces at work in what may be considered our first unnecessary war. It is a complicated and in many respects a ludicrous story, but he manages to weave the diplomatic and military maneuvers into meaningful patterns that also reflect contemporary events in Europe. He also discusses the subsequent interpretations of historians.

Commencing with a lucid discussion of the problems and policies leading to war, the author attributes the major reason for hostilities to maritime grievances rather than to the drive for western expansion, economic distress, or even to "the growing feeling of patriotism" that seemed to demand a vindication of national honor. He does not accept the notion that the United States blundered into war: the decision was "thoroughly debated" and came only after diplomatic negotiation, economic coercion, and threatened military preparations had each failed to reverse British policy. The embargo succeeded only in bringing the country "to the verge of civil war"; the increase in the army existed primarily on paper; and war itself was declared by Congress just when England was about to repeal the Orders-in-Council.

Under these circumstances it is scarcely surprising that the war effort floundered in confusion. The Americans in the initial campaigns failed to capitalize upon the strategic vulnerability of Canada because competent leadership was in even shorter supply than provisions, transport, and manpower. The heroic exploits of the *Constitution* and the *United States* in single-ship actions tend to obscure the ruinous effects of the British blockade both in restricting trade and in reducing our navy to a minor role. Despite the claims of Theodore Roosevelt and Admiral Mahan, both advocates of a stronger navy in their own day as well as for 1812, Professor Coles concludes: "It simply was not within American capabilities to make a serious dent in British seapower, or even to cause a diversion of crucial proportions."

It was a different story on the Great Lakes, where Perry's victory in 1813, coupled with aggressive land campaigns along the northwest frontier, went far to redeem the disasters of the previous year. The British were strong enough to destroy the Chesapeake flotilla and seize Washington in 1814, but Baltimore successfully withstood attack and the American victory on Lake Champlain ended the final threat of a British invasion from the north. Only the south remained an active theater, and here the pattern was much the same: "a short-lived offensive phase, a war against the Indians, and a successful defense against large-scale invasion." Following a graphic description of the Battle of New Orleans, the book ends with a persuasive analysis of the reasons why neither side was able to win either the war or the peace.

The War of 1812 contains pertinent comments on military organization and naval technology, on problems of command, and on the relation of military operations to politics and economics—it was as difficult to move money in the United States as it was to move troops and supplies—and even suggests analogies that have some relevance today. (Pointing to the lack

of transportation and communications facilities, the Duke of Wellington considered this country a political jellyfish: "I do not know where you could carry on . . . an operation which would be so injurious to the Americans as to force them to sue for peace.") The author's trim style, his eye for appropriate detail, and his refreshing judgments upon the chief actors combine to elevate this book from a useful summary to a gem of historical writing and synthesis.

JAY LUVAAS

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Pennsylvania

ROBERT ALLEN RUTLAND. *The Ordeal of the Constitution: The Antifederalists and the Ratification Struggle of 1787–1788.* Pp. xiii, 329. Norman: University of Oklahoma Press, 1965. $6.95.

For more than a century and a half historians virtually ignored the Anti-federalists except for off-hand and usually slighting remarks. Now there has been a sudden change. Rutland's book is the fourth book about the opponents of the ratification of the Constitution to appear in the last five years and the third one published in 1965. Jackson Turner Main's *The Anti-Federalists: Critics of the Constitution, 1781–1789* was published in 1961. Unlike the other three books, Main devotes several chapters to the background of debate and political thought before 1787 and emphasizes the economic and social backgrounds of the Anti-Federalists and their opponents. Cecelia Kenyon's *The Antifederalists* (1965) is a book of documents preceded by a long introduction which contains a serious and significant analysis of the basic elements in Anti-Federalist political thought. Morton Borden's *The Antifederalist Papers* (1965) matches each of the *The Federalist Papers* with an Anti-Federalist "paper" which discusses the same topic as its opposite number. Rutland's book is different. He devotes only sixteen pages to events before the publication of the Constitution, calls the debate over ratification "the first national political campaign," and then proceeds to write a colorful and at times exciting history of such a campaign.

Rutland has searched widely in the manuscript and newspaper collections of the period and provides some new and eminently quotable material. In discussing the various state conventions he offers a good many suggestive interpretations, although sometimes the overuse of colorful adjectives, while making for good reading, leads to imprecision. He emphasizes the lack of unified leadership, the lack of organization, and the lack of a unified program as factors in the failure of the Anti-Federalists. These are important matters to emphasize, but Rutland ignores or treats casually other factors which were probably of equal importance. For one thing most Anti-Federalist leaders were convinced that the central government should have more power before the Constitutional Convention ever met. Thus, they were in a weak position politically when presented with a constitution which did give the central government more power. The Anti-Federalists needed time to make their fundamental position clear which was that they objected to the kind of central government provided by the Constitution, not the addition of power to the central government. And they did not have time, faced as they were with a whirlwind campaign for ratification directed by an organized group which was convinced that the Constitution must be ratified in a hurry or it would not be ratified at all.

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JOHN R. HOWE, JR. *The Changing Political Thought of John Adams.* Pp. xv, 259. Princeton, N.J.: Princeton University Press, 1966. $6.50.

John Adams has by now won a high place among the Founding Fathers as a political thinker. Of late, this aspect of his career has attracted renewed scrutiny, coupled as it is with his prominence in the public councils of the Revolutionary era. Recent scholarship, exploiting a rich mine of Adams papers on microfilm or in definitively edited form, has produced an impres-

sive number of studies. To weigh all this in the critical balance is a challenging task, but Professor Howe has met it with a freshness of approach that merits respect. In this useful book, the author plumbs the wellsprings of Adams' theorizing about the political process. He finds little that is unique or profound but much that reflects wide reading and resourceful adaptation to the American experience. The clue to Adams' thinking, and the key to his conduct, was a commitment to freedom and independence, crystallized into an intense nationalism, predicated on social order and stability. Importantly, the life of the mind was conditioned by the life of the man.

In systematic fashion, for over forty years of active politics, through many a major crisis in the affairs of the fledgling nation, Adams sought to appraise the realities of the evolving political scene, shaping his course, by word and deed, to the imperatives of statesmanship. Carefully formulated principles guided his pen and strongly held convictions prompted his actions. In the sense that he tried to give logical definition or consistency to his views, he made his mark as a political scientist. In political tracts, newspaper articles, essays, a monograph, state papers, and numerous letters, Adams considered the nature of the American polity, the society that nurtured it, its distinctive character and responsibilities, and its republican mission.

Personal political disappointments and the crises of the Confederation period worked a change in his faith in democracy and liberty, particularly a liberty tempered by reason and nature and bolstered by virtue—the virtue of the Puritan ethic. This earlier view no longer seemed possible of attainment, as political antagonism, social cleavages, and class conflicts now endangered the republic. Hence, in his *A Defence of the Constitutions of Government of the United States of America* (1787–1788) and in his "Discourses on Davila" (1790–1791), he sought "a balancing of interests" as a corrective to popular rule. It was Adams' fate to experience the ingratitude of the republic, but his dire forebodings about America and democracy, happily, did not materialize.

This work complements perceptive studies by Zoltan Haraszti, Loren Baritz, and Edward Handler, as well as an old book on a similar theme by Correa Walsh. Careful editing would have caught many a slip, especially in the bibliographical citations. One misses a solid critical essay covering the secondary literature; it would have enhanced the value of a study such as this.

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RUFUS BABCOCK (Ed.). *Memoir of John Mason Peck: Forty Years of Pioneer Life*. Pp. xciv, 360. Carbondale and Edwardsville: Southern Illinois University Press, 1965. $10.00.

One of the most indefatigable leaders and perceptive interpreters of the midwest frontier in the decades after the War of 1812 was a Baptist missionary, John Mason Peck. He was a multisided figure. He engaged in sufficient diverse Baptist activities which would have occupied several men, yet he found time to write emigrant guides and a gazeteer, reputed to have brought innumerable settlers to the West. He was also a collector of western historical manuscripts, a chronicler, and the biographer of Daniel Boone, whom he had known. His description in his emigrant guides of the separate waves of settlers advancing toward the frontier anticipated in part the theories of the historian, Frederick Jackson Turner, and he was quoted at length in Turner's *The Significance of the Frontier in American History*. He traveled incessantly, met everyone, found out everything, and in conversation poured forth data, lore, and anecdotes. Much of this went into his contemporary writing, and presumably into fifty-three volumes of diaries and journals. After Peck's death, his friend the Reverend Rufus Babcock prepared a memoir out of these papers, which was first published during the Civil War. Babcock then, as Peck had wished, returned the diaries to the Mercantile Library in St. Louis which later lost them. All that remains are Babcock's excerpts and summaries. This is indeed a misfortune, since, as Paul M. Harrison, Professor of Religion

at Pennsylvania State University, points out in his introduction, Babcock was primarily occupied with memorializing Peck's piety. Harrison has tried to make up for the deficiencies by preparing a lengthy introduction drawing upon other evidence. His analysis of the doctrinal and denominational quarrels of the period and his explanation of the bitter opposition of many western preachers to the missionary Baptists from the east are especially valuable. Peck himself trenchantly quoted such a preacher, "You know the big trees in the woods overshadow the little ones; and these missionaries will be all great, learned men, and the people will all go to hear them preach, and we shall all be put down."

Unfortunately, on one hand, the memoir is sparse on many vital issues, even ones related to religion, such as the vicissitudes of Peck's beloved Shurtleff College in Upper Alton, Illinois, and especially his disapproval as a moderate of the militant course of the abolitionist Elijah Lovejoy, ultimately assassinated in Alton. There is more on the subject in Peck's contemporary writings. On the other hand, the memoir does contain long verbatim passages from the journals describing squatter life around 1820 and Peck's account of his hairbreadth escape from death in a steamboat wreck. These passages, unsurpassed in their realism, make the reissue of the memoir worthwhile.

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SOCIOLOGY AND EDUCATION

DOROTHEA C. LEIGHTON and JOHN ADAIR. *People of the Middle Place: A Study of the Zuni Indians.* Pp. xvi, 171. New Haven, Conn.: Human Relations Area Files Press, 1966. $4.50.

In 1941 an Indian Education Research Project was undertaken jointly by the Committee on Human Development of the University of Chicago and the United States Office of Indian Affairs. Five diverse tribes were selected for intensive investigation by anthropologists, psychologists, and scholars in related fields to examine the Indians' personality in the context of their total environment. The ultimate aim was to use these data to evaluate the results of the Government's Indian program and to guide it into more effective policies.

These findings were published in a series of brilliant monographs on four of the tribes: the disciplined, closed Hopi society (*The Hopi Way* by Laura Thompson and Alice Joseph, University of Chicago Press, 1944); the disorganized, frustrated Sioux (*Warriors without Weapons* by Gordon Macgregor, University of Chicago Press, 1946); the proud, independent Navahos (*The Navaho* and *Children of the People* by Clyde Kluckhohn and Dorothea Leighton, Harvard University Press, 1946 and 1947); and the remote, unspoiled Papagos (*The Desert People* by Alice Joseph, Rosamond B. Spicer, and Jane Chesky, University of Chicago Press, 1949). The final report of the Project, *Personality and Government* by Laura Thompson, was published in 1951 by the Instituto Indigenista Interamericano, Mexico, D.F.

Through the use of published materials and original field work these monographs present the physical setting, the prehistory and history, and the social and economic situation in each tribe, and an examination of the children through intelligence and personality tests and case studies of selected individuals.

The present study of the Zuni pueblo of western New Mexico follows the same pattern; but when the Project was planned, there was no scholar sufficiently acquainted with this people to undertake the report. Some data were collected: the children were tested in 1942–1943; and in 1947–1948 John Adair conducted a study of the interactions of the new experiences when the veterans of World War II returned to the pueblo. Finally, Dr. Adair was persuaded to write the tribal description, and Dr. Leighton contributed the findings of the tests. Thus, the monograph is based on outdated field studies, but with a people as conservative as the Zunis it can be assumed that only minor changes have occurred since the investigations were made.

For in their thought the Zunis occupy the center of the earth, the "Middle Place"; all

else is peripheral. They know the exact spot on the edge of their pueblo where their ancestors, having emerged from the underworld at the behest of Sun, after many adventures and years of searching found this place to settle. It is marked by a stone shrine, and it figures prominently in their ceremonials.

Archeologists point to a more prosaic origin. They trace the Zunis back to the "Four Corners" intersection of Arizona, New Mexico, Utah, and Colorado as early as 200 A.D. The first Spanish expedition reached them in 1539, when Fray Marcos de Niza came up from Mexico with the Negro, Estevan, as advance guide; and Coronado came the following year. At that time they were a sedentary agricultural people living at their present location in six villages with "very good houses, with three and four and five stories, where there are very good apartments and good rooms with corridors."

Living in a climate where every drop of water meant corn and life, the Zunis developed a religion that bound individuals, ancestors, tribe, and nature into one. This unity and cohesiveness enabled them to withstand the raids of Apaches and Navahos, the encroachments of Spanish conquistadors, and Anglo-American onslaughts against their culture. They have made some outward changes—from the Spanish they acquired peach trees, domestic animals, and European grains; and in these later years they have adopted household conveniences, motor transportation, an increasing cash economy, and even schooling and the use of English—but their spirit is essentially unchanged.

Each individual takes his place in a closely knit, co-operative society, where hard work, subordination, and religious ritual assure the continuity of the group. This creates some tension, but not as much as one would expect. Excellent photographs in this volume show a people, handsome, strong, and serene performing their daily tasks with careful precision. Even statistically their system has worked; the estimated population when the Spanish came was 3,000 to 3,500, and although it dropped for a time, it has climbed back to the original figure.

Thus, the Zunis hold their "Middle Place," a rock-bound island of resistance set in the restless sea of modern life. The authors of this monograph see some evidence that it is crumbling, and they speculate on a future when it may be swept away, but as to the time, no one can say.

Like the other volumes of the series, this book combines sound scholarship with good writing. It should serve its original purpose as a guide in Indian administration, and to the general reader it presents a fascinating picture of a unique society.

ANGIE DEBO

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ARTHUR J. RUBEL. *Across the Tracks: Mexican-Americans in a Texas City.* Pp. xxvii, 266. Austin: University of Texas Press, for the Hogg Foundation for Mental Health, 1966. $6.50.

This work, originally a doctoral dissertation, has three aims: (1) to present an objective, sympathetic account of the ways of life of a relatively little studied people, the Mexican-Americans of southeast Texas; (2) to reveal the frame of reference used by Mexican-Americans in their approach to health problems; and (3) to explain the high prevalence of anxiety and disaffection among the group observed. The field work, completed apparently in the late 1950's, was done in a town of about 15,000 population in Hidalgo County; the techniques used were participant-observation and repeated informal interviews with sixteen key informants, mostly young men.

The core of the book consists of five chapters dealing respectively with the family, the *palomilla*—an informal association of young males—political behavior, formal organizations, and illness behavior and attitudes. Although a major purpose is to provide an account of the social life of Mexican-Americans, there is little information on such topics as childhood, male-female relations, religious life, economic activity, or relations with the Anglos who live on the other side of the railway line.

The chapter on illness practices and attitudes adds little to what has been reported in previous studies. There is a considerable amount of anecdotal discussion of the lives

and deeds of several *curanderos* but almost nothing about the extent to which their services are or are not used or about considerations that lead to the use of their services in preference to those of other categories of healers. Particularly lacking in this chapter is any comparison of the health attitudes and practices of the south Texas Mexican-Americans with those of Spanish-speaking groups in New Mexico, Colorado, and California that have been extensively reported.

In a chapter on perceptions of social relations a considerable body of comparative materials from other Mexican-American settlements, from southern Italy, from rural Colombia, and from studies of Chippewa and Ojibwa Indians is presented to illuminate and support an anthropological explanation of why anxiety and disaffection are so prominent a part of social perceptions and social relations in the population study. Rubel's thesis is that anxiety and disaffection grow out of incongruities that exist between the social preparation provided in a nuclear family-oriented social system and the demands of a larger, more complex society in which the Mexican-Americans must interact. An important contributing factor, Rubel believes, is the atomistic character of the Mexican-American society, with little or no co-operation between nuclear families and with normative support for attitudes of suspicion, wariness, and mistrust towards those outside the immediate family. The explanation is not wholly convincing, even to Rubel, and the chapter concludes with the familiar suggestion that more research is needed.

Despite its centralizing theme—the search for an explanation for what is said to be a key personality characteristic of a group of Mexican-Americans—this is not a cohesive book. It is loosely organized and edited; the several objectives do not articulate well; and there is a fair amount of extraneous detail that detracts from the main line of argument. But it does provide reaffirmation and reinforcing evidence of the complexity and variety that are to be found within a major ethnic group—the Spanish-speaking people of the southwest—and signals again the need for more attention, scholarly and programmatic, to the characteristics and problems of this disadvantaged group.

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PETER L. BERGER and THOMAS LUCKMANN. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge.* Pp. vii, 203. Garden City, N.Y.: Doubleday, 1966. $5.95.

This book is important for two reasons. It redefines the prime subject matter of the sociology of knowledge as that of commonsense knowledge of everyday life, and it outlines a general sociological orientation from this base line. To this reviewer, this approach is considerably more fruitful than that of the exponents of presently dominant sociological constructions of functional system theory or mathematical sociology. The authors base their work on the pioneering investigations of the late Alfred Schutz, the phenomenologist who explored the elementary aspects and the forms of a human perception of social reality, treating these investigations as the fundamental data of sociology. Under utilization of the work of an array of other sociologists and social psychologists, among them Weber, Durkheim, and Mead, the authors carry this approach into the larger reaches of the institutionalized social structure on the one hand and the construction of cultural interpretations of the "world" as a meaningful universe on the other. Throughout, they stress the linkage between the structural aspects of social life and the meaningful interpretation of social reality. Both are seen as "dialectic" moments of the same processes of human experience.

The authors deal further with the paradoxical phenomenon that, in the historical as well as in the cognitive sense, the social world is created and constantly re-created by men but subsequently experienced by them as an objective reality, a Durkheimian "thing" of superhuman dimensions. This reification of the social world is explained in two ways: First, individuals occupy only one small place in a large structure of social relationships constituted in complex systems of the "division of labor" and simi-

larly complex systems of the "distribution of knowledge." The individual has only a small share in both. Secondly, he is introduced to this knowledge with the help of a language which, by definition, embodies all the "objectivations" and "typifications" to which all unique and concrete experiences of social encounters are reduced to a common universe of generalized meanings. In the discussion of the ensuing problems, the authors advance sociological thought in such additional areas as the theory of role-acting, primary and secondary socialization, and the like, as well as the construction and transformation of both popular and theoretical systems of social interpretation—"symbolic universes."

Finally, the book is a relevant contribution to the discussion of sociology as such: should it continue the path into the realm of "positivist" reifications, or should it return to a humanistic starting point, occupying itself with the actual roots of social life in both immediate and mediated human experiences and interpretations.

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JAY M. GOULD. *The Technical Elite.* Pp. 178. New York: Augustus M. Kelley, 1966. $5.00.

Dr. Gould has traced the changes in the character of the "technical elite" in America in recent years, evaluating its influence on our social organization as a whole, with specific emphasis on its relation to our industrial organization and development. To this end he has gathered relevant data on the background and training of approximately one thousand top officers—presidents and chairmen or executive vice-presidents—of the six hundred largest nonfinancial corporations in 1964. These data, compared with similar data from earlier studies, show a marked increase in college-educated executives, and especially those with engineering and scientific degrees —an increase that is out of proportion to the increase in college training among the population as a whole. Those executives who have "inherited" the top position, through family influence or large stock holdings, are a decreasing proportion of the group, as are also bankers and lawyers.

One of the more interesting parts of Dr. Gould's study is his interpretation of the significance of these trends in the light of Veblen's conclusions in his *Engineers and the Price System.* Gould notes Veblen's statement that the "steady emergence of a technical work force" rather than the "slow and painful accumulation of capital resources" will result in the great increases in productivity that we have, in fact, experienced. It is assumed that it is the upgrading in the scientific and engineering training of the total work force, rather than in the top management, that is responsible for this. The increase in the number of top executives from the ranks of the engineers and scientists may be the result of the changing character of the staff and employees rather than the cause of rising productivity. No evidence of the effect of the scientifically trained top executives on the development of their companies is offered. Nevertheless, this slender volume is an important contribution in this field and will be of genuine interest to economists and to those concerned with the more practical problems of defining the most desirable qualifications for top executives.

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PASCAL K. WHELPTON, ARTHUR A. CAMPBELL, and JOHN E. PATTERSON. *Fertility and Family Planning in the United States.* Pp. xxxiv, 443. Princeton, N.J.: Princeton University Press, 1966. $12.50.

Marriage and childbearing are such universal phenomena and are so intimately related to basic psychological and social factors that until recently they have not received much scientific study. In the United States there have been a number of changes in desired family size, but there is little knowledge of the reasons for these changes, including the marked changes since 1940. The increasing use of contraceptives as a means of achieving desired family size was occurring before the general availability of the oral contraceptives or intrauterine devices.

The desired family size of two, three, or four clearly indicates that family planning is widely accepted. In fact, a large majority of wives and husbands in the United States agree that the control of fertility is desirable and most couples who are able to have children either made some attempt to prevent pregnancies or attempt to do so. The effectiveness of contraception improves as couples approach the number of children they want. The groups with higher fertility were less likely to have used contraception or lacked the motivation for regular and effective use.

The detailed analysis of the survey findings demonstrates once more the complexity of human behavior and attitudes in this field. Religion, education, the work-status of women, race, income, and rural residence or background are all intertwined in a network of relationships which make it difficult to isolate any one as the dominant variable. Catholics wish for, expect, and have more children than white Protestants. Higher education tends to reduce fertility, but among Catholic women the opposite is true, especially for those Catholic women who attended Catholic colleges. Nonwhites tend to have higher fertility than whites, but nonwhite women with high-school or college education have rates which are comparable to those of whites at the same educational level. There were no significant race or class differences in fecundity impairments.

The survey was done in 1960, following a similar survey among white women in 1955. During the five years there was an increase in the number of children women expected to have and also in the proportion of couples using contraceptives. As a group, the women interviewed in 1955 made a remarkably good projection of the number of children they would have during the next five years. A major purpose of the survey was to extend the use of birth expectations to the projection of future population.

The authors firmly resist the temptation to generalize beyond their data. Again and again a promising suggestion must be qualified by the statement that the differences lack significance by the standard statistical tests. Population trends in this and other countries are increasingly recognized as major elements in economic and social well-being; all persons are participants in the behavior which makes up population trends. A conclusion which is not stressed by the authors is that the resources that are available for adequate study of this important aspect of human behavior are still pitifully small.

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IRVING SPERGEL. *Street Gang Work: Theory and Practice.* Pp. xviii, 249. Reading, Mass.: Addison-Wesley, 1966. $5.95.

In the 1930's a serious attempt to contain the growth of juvenile delinquency took two forms in Chicago, a leading contender for national prominence in social difficulties. One was the Chicago Area Project, a neighborhood-action program in selected areas. In addition, the Institute for Juvenile Research was developed by the State of Illinois to investigate sources of delinquent behavior and the effects of specific attempts to forestall recidivism. More recently, despite thirty years' experience, a fundamentally similar action program has been worked out in Chicago, New York City, and other cities—but with considerably less emphasis on the research aspect. However, the strategy has been revised to place major responsibility on a professional street worker—the so-called detached worker—who, in effect, practices social work on the streets. Spergel's book serves as a brief rationale for this approach, as well as a handbook of tactics for street workers.

Those who expect subtitles of books to be accurate will be disappointed once again, at least as far as the "theory" portion is concerned. Spergel admits in his preface that a theoretical analysis of delinquency is still inadequate from a scientific standpoint and also as a basis for satisfactory practice. Consequently, Part I ("Street Gang Work: Theory") presents only a sketchy description of delinquent subcultures—drawn from Cloward and Oh-

lin—and a hopefully speculative discussion of experience as a street worker and supervisor. Essentially, what little theory resides in the book is the psychoanalytic corpus which is a hallmark of social-work training, particularly as represented by the significance of the father in early childhood.

"Practice" and "action" are the cardinal concerns of the book, as exemplified in workable strategies and related techniques of encouraging more or less temporary defections from serious delinquencies. Spergel neatly distinguishes two strategies—the *area approach*—based on extensive contacts with youth—and the *treatment approach*—which stresses intensive individual work with delinquents and predelinquents—as well as the inevitable *mixed or balanced approach*—combining aspects of the preceding two—which is considered both ideal and extremely difficult. Part II contains a set of policy observations on street work, drawn from the author's experience, and based on the practical assumption that the area approach is currently most needed.

Since Part II is clearly a manual or handbook—but not a "cookbook of recommended recipes and essential ingredients," as the author honestly states in his preface—an adequate summary would be tedious. However, Spergel deals with the street worker and his initial identity problems; the importance of meeting and understanding the tests or challenges he must face from his "clients"; the judicious imposition of norms and controls; the art of encouraging decision-making among delinquents and its dangers; training delinquents in normal role relationships; the ubiquitous phenomenon of "rep" or "face"; and the seductive possibilities of overidentification with the gang. There is a chapter on techniques of working with individual gang members as well as a highly condensed survey of the worker's necessary contacts with a variety of agencies in the community.

The street worker is a missionary, with all the dangers and ultimate satisfactions of his religious counterpart. Spergel has written an authentic account of his missionary work, with advice to his successors. Neither the author nor the reader, unfortunately, can evaluate his experience or his advice; the success or failure of his techniques has yet to be established. Spergel argues that social-work training is indispensable for street workers—though most street workers are admittedly disadvantaged in this respect. Yet schools of social work retain a case-work orientation and a psychoanalytic bias, which are theoretically not well suited to the area approach. On the other hand, some schools of social work are contemplating major changes in curricula, with greater and more central concern for sociological theories, and with greater appreciation of the affinity among practice, theory, and research. Perhaps inadvertently, Spergel's book suggests that the legal separation between social work and sociology was ill-advised and that resumption of a normal marriage relation would be notably beneficial for the offspring—professional workers in both fields.

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LEON RADZINOWICZ. *Ideology and Crime.* Pp. xii, 152. New York: Columbia University Press, 1966. $4.00.

This slim little volume is made up of lectures delivered at Columbia University Law School last year by its author, who is Professor of Criminology and founder and Director of the Institute of Criminology at the University of Cambridge. A distinguished legal scholar and historian as well as a criminologist, Professor Radzinowicz has the rare ability to write in a direct, lucid, and unpretentious manner about immensely complicated issues and extremely verbose partisans of those issues, without sacrificing accuracy or careful documentation.

In four lectures the author describes the changing penal philosophies, their social and intellectual contexts, and some of the ramifications in the courts and prisons of the time. In his first lecture Dr. Radzinowicz describes the sweeping eighteenth-century reforms of the criminal law which arose out of the political upheavals and intellectual currents of the Enlightenment. It was at this time that the great procedural safeguards were evolved and that, stemming from the doctrine of equality before the law and the view of the criminal as a rational, reasoning creature, a series of graded, specific punishments were equally

set up appropriate to carefully described offenses.

In his second lecture the author describes what he calls the "determinisitic position" of the nineteenth century. He finds two divergent approaches—crime as an expression of individual constitution, with men like Lombroso and Ferri; and crime as the product of society, beginning with pioneers such as Quetelet, Guerry, and Bonger. At this point the criminologist was to study men, not justice.

In the final two lectures Professor Radzinowicz discusses twentieth-century developments in penal ideology, paying particular attention to research, especially that coming out of the United States. "Now we distrust philosophizing and call for facts. At the same time we know there are no short-cuts to the scientific understanding of society or individuals. Our doubts have been reinforced by the experience of the past fifty years, which have left no room for blind faith in human nature which may destroy all that has been won. Inevitably we are more sober in our hopes."

All in all, this book presents a fine overview from a sociological and legal-historical standpoint of developments in criminal-law philosophy and practice over the last two hundred years. As such, it should provide useful perspective for lawyers, psychiatrists, political scientists, and others whose lives bring them in contact in one way or another with crime and criminals, but who may not be familiar with some of the historical and ideological background of current controversies and practice. They could not have a better guide.

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ROLAND SADOUN, GIORGIO LOLLI, and MILTON SILVERMAN. *Drinking in French Culture.* Pp. xviii, 133. New Brunswick, N.J.: Rutgers Center of Alcohol Studies, 1965. $6.00.

This is the fifth volume in the monograph series from the Rutgers Center of Alcohol Studies. These studies, with the exception of Pittman and Gordon's work on chronic-drunkenness offenders, have focused on the drinking behavior of American Jews, Italians, Americans of Italian descent, and high-school students in Michigan.

The new monograph, concerned with drinking practices and patterns in France, is based on three separate sample surveys of the adult French population completed in 1955, 1956, and 1959. These data are supplemented by findings from nonrepresentative samples of two hundred French physicians and one hundred and twenty alcoholics from four major sections of France. Thus, the monograph presents the findings from five distinct investigations each discussed in a separate chapter (1–5) with a concluding one on "The Prevention of Alcoholism."

Given the fact that until recently, sociologists, psychologists, psychoanalysts, and economists have largely ignored the importance of drinking practices and behaviors while drinking for understanding the sociocultural context in which alcoholism develops, the authors are to be commended for focusing on this area. However, this volume cannot be considered a definitive study of French drinking practices; as indicated above, there was no guiding theoretical system which governed the questions posed in the various opinion surveys and the interpretation of the meaning of the responses to the larger French social structure. These discrete surveys do provide a number of interesting facts about drinking behavior and attitudes toward drinking. For example, the 1956 sample survey concerned with all beverages consumed during a twenty-four hour period reported that "the avearge French adult drank approximately 1,000 c.c. of total fluids, of which 44 per cent was in the form of alcoholic beverages" (p. 45). French alcoholism rates, allegedly the highest in the world, vary considerably within the country, with the highest rates reported in Brittany, Alsace, and Normandy. The authors report from the 1955 survey that toleration of intoxication is widespread and that many believe that heavy drinking is a mark of virility.

The authors conclude with a short five-page chapter on the prevention of alcohol-

ism. Their remedy is based on the assumption that "the people who later in life will turn to excessive and uncontrolled uses of alcohol usually exhibit premonitory difficulties during adolescence" (p. 122). Therefore, the authors would mount an educational campaign directed at youth against unsafe drinking, inebriety, and alcoholism, but in their words: "Education should give appropriate recognition to the nutritional and psychological advantages of the moderate and non-inebriating use of alcoholic beverages."

Unfortunately, this prescription for prevention of alcoholism underlines the weakness of the monograph, for example, not discussing the relationship of drink' patterns to the larger institutional st :tures of economics, politics, and family in France. Scholars of the French alcoholism problem such as Fouquet, Ledermann, Trevas, and Hong have demonstrated that the economic institution is intimately related to the consumption of alcoholic beverages. Fouquet reports that at least three and one-half million Frenchmen are engaged in viticulture and the production and distribution of alcoholic beverages. Furthermore, Ledermann, Trevas, and Hong's study indicates that commitments for alcoholic psychoses vary directly with the density of home production of alcoholic beverages or the importance of wine-growing. It must be seriously doubted that crash educational campaigns which are directed at adolescents will have much influence on the crucial economic role which the production and consumption of alcoholic beverages play in French society.

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ROGER HOOD. *Borstal Re-Assessed.* Pp. xii, 244. London: Heinemann, 1965. $5.88.

Here is a magnificently documented history and survey of the English Borstal system, once the cynosure of penal reformers but now fallen into lean times. Professor Radzinowicz, Director of the Cambridge Institute of Criminology, on whose behalf Dr. Hood's study is published, comes straight to this point in his foreword. "Before the war," he points out, "the success rate, in terms of those not reconvicted within two years of release, was as high as 70 per cent. Now, at 36 per cent, it has almost been halved."

How far has Borstal fallen? How golden was its "golden age"? No one can really say. From a close reading of Dr. Hood's thorough historical exposition and from some firsthand familiarity with the system, a complex answer emerges.

If Dr. Hood could tell us why, the answer would be of priceless value to correctional administrators all over the world, oppressed as we are by the problem of the youthful offender. The numbers are rising in volume, if not in rate, but our success is no greater than our English colleagues are achieving. Unfortunately, neither the statistical tables which Dr. Hood has drawn from the scrupulous reports of the Prison Commissioners nor the exhaustive official history lead us to firm conclusions. We are told that the numbers of boys rated as probable successes on the famous Mannheim-Wilkins prediction equation is declining, which suggests to the author that the boys now being received are less amenable to traditional Borstal methods than were their predecessors.

The kind of youth which Borstal was getting in the 1920's and 1930's, when the crime rates were much lower and when the alternative dispositions available to the courts were fewer and relatively untested, was different from those now reaching these institutions. It is most probable that boys who in the 1960's would be fined or placed on probation were being sent to Borstal for three-year sojourns. The decline in those Mannheim-Wilkins prediction scores can only be traced to the mid-1950's, when prediction came into fashion, but this decline must have been going on for many years without statistical documentation. It is likely that Borstal was succeeding with boys who in our time would be successes in the remarkably effective English probation system.

A second reason for the decline in success rates is the fact that the Borstal system in its prime was led by Sir Alexander Paterson, a charismatic administrator who sought out and lured into Borstal careers a cadre of men after his own heart. They believed in the Borstal mystique; they knew it would work; and they were willing to pay high prices in energy and time to achieve the results their leader expected.

They have been supplanted by the products of a seniority-based civil service in which excellence must wait its turn. Bureaucratization has replaced charisma, but no one can forget that there was a time when good custodial management of delinquents took on the characteristics of a great cause.

Third, the Borstal boy is a lower-class product, and the British working class is no longer the deferential, socially immobile mass that it used to be. Guidance from their betters is no longer accepted as a matter of course, despite the zeal of those who try to impart it. No one can doubt that many good things are still happening in Borstals all over England, but their impact on a boy can hardly survive his release to a community in which nondelinquent behavior is neither expected nor advantageous. Boys expect to fail, and the staff no longer expects the success of which their predecessors were so confident.

Fourth, and here it is difficult to be sure of my ground, the Borstal boy of the 1920's was not faced with the dossier and the other stigmata of a record-keeping society. British correctional case records are the despair of the researcher, but their casually chaotic form in the Borstal "golden age" could hardly spoil the identities of their subjects. The boy released from Borstal in the welfare state of the 1960's is faced with the paraphernalia of identification which all too clearly label him. On his home street he will usually find that the label is read for what it is and that he is expected to behave accordingly. The decline of Borstal is a regression from an altruistic idea put into practice by inspired enthusiasts for boys whose social difficulties were relatively simple to a system managed by civil-service bureaucrats dealing with boys in much more serious difficulties in a much more complex society. Its troubles are shared by its counterparts in most of the civilized world. At this writing, Parliament is considering legislation which, if passed, will drastically modify the Borstal structure. Professional staffs will be increased, and innovations will be facilitated. The resourcefulness and compassion of the Englishmen who created the original system may well be duplicated in the creation of a new apparatus for reintegrating the delinquent youth into the complex community from which he came. If English imagination can bring about such a happy answer to Dr. Hood's appeal, the results will attract the same emulation that Sir Alexander Paterson's fervor received.

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ROBERT MORRIS and ROBERT H. BINSTOCK, with the collaboration of MARTIN REIN. *Feasible Planning for Social Change.* Pp. xiii, 169. New York: Columbia University Press, 1966. $5.00.

This book is concerned primarily with the nature and significance of planning goals and the organizational problems likely to arise in the effort to achieve them. Morris and Binstock argue convincingly that the goals of any plan should be feasible for the organization which is responsible for administering it.

In the Preface they observe that what they "have to say is relevant to planning undertaken through public as well as private auspices, by city planners as well as social planners, for changing conditions of health, employment, education, income, recreation, housing, land use and other dimensions of individual and collective existence."

Hoping to attract a rather wide and diverse group of readers, the authors have attempted to develop their thesis in general terms and within a broad conceptual framework. It is clear that they are familiar with the theoretical literature in related fields of inquiry. At appropriate points they refer to recent contributions to the

theory of social planning and to organizational theory. Most of the discussion, however, is based on a study of the plans and performance of four community welfare organizations carried on during the early 1960's with the help of a Ford Foundation grant.

Of the four organizations included in the study, three were in the West—one in Denver, one in San Francisco, and one in Contra Costa, California—and one was in the East—Worcester, Massachusetts. Each of them was conducting a program of aid to aged citizens that was deemed relevant to the subject of the book.

The knowledge gained from the study of these four organizations and their welfare programs for the aged has been effectively utilized by the authors. The most convincing case for the selection of feasible planning goals is made in connection with these programs. The topical organization within individual chapters also serves to emphasize the significance of these programs for the argument of the book. All too often, however, the discussion of these programs overshadows the basic theme of the book as it applies to the broader objectives of social planning. Descriptive information about these programs is provided in considerable, but not always essential, detail.

Nevertheless, *Feasible Planning for Social Change* is more than an evaluation of four specific programs of aid to the aged. The book provides fresh insights and interesting illustrative material on a neglected phase of social planning. It merits careful reading by social planners, social workers, and others interested in the effective administration of welfare programs in the United States.

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ALFRED MCCLUNG LEE. *Multivalent Man.* Pp. xiii, 447. New York: George Braziller, 1966. $7.95.

This book is a wide-ranging and spirited discussion of society, culture, groups, and personality. Professor Lee holds some basic convictions about his subject that can be enumerated as follows: (1) Societies and individuals are never static, but instead are in a process of continuous change. (2) Man and society are multivalent products, which is to say that they are more or less integrated units composed of many conflicting forces and strains. (3) The path to understanding behavior lies in "clinical" investigation rather than in the depersonalized, computerized, survey-research findings. (4) The knowledge thus gained is vital for a democratic society, and part of the sociologist's role is to disseminate that knowledge so as "to assist people in assessing the social mythologies by which they live." Some of Professor Lee's credo is almost universally shared by sociologists but certainly not all of it.

The main danger that Lee sees for both man and society is the tendency toward monovalence by which man moves towards overconformity and his society moves toward bureaucratic routinization. This is not a new message, but Lee succeeds in offering some new perspectives whereby the consequences of such trends can be assessed.

This brief summary, of course, cannot convey the wide range of subjects that Professor Lee has considered. I cannot attempt to inventory them other than to mention that, among other subjects, he considers socialization, the structure of groups, social change, and the role of social values.

I found the book to be inexplicably variable in its levels of sophistication from one chapter to the next. Hence, the opening chapters on culture and socialization were like the usual discussions one finds in an introductory textbook in sociology. Other chapters, such as those on groups and social roles, get bogged down in classifications. In contrast, however, some chapters emerge as exciting and insightful gems of understanding. Typical of those are two chapters that analyze a typology of occupational status ladders consisting of enterprisers, bureaucrats, professionals, and artisan-scientists.

This variation in levels of abstraction, unfortunately, is bound to create mixed reactions. The professional reader is likely to become bored with the obvious, while the amateur is likely to be overwhelmed by

the difficult. Yet, both readers have something to learn, albeit from different chapters of the book.

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DAVID M. HEER. *After Nuclear Attack: A Demographic Inquiry.* Pp. xxxiii, 405. New York: Frederick A. Praeger, 1965. $15.00.

After Nuclear Attack attempts to establish models for determining the demographic consequences of different levels of nuclear attack. It was commissioned as a part of a larger study sponsored by the United States Office of Civil Defense.

The basic assumptions are two attack patterns, one directed primarily at military targets (Spadeform), the other aimed at both these and the seventy-one largest population and industrial cities (Holifield). The first assumes national fatalities of 13 per cent, and the second 30 per cent, of the population at the time of the attack. A distinction is made between the effects of a daytime and of a nighttime attack.

Since quite detailed estimates of regional and local fatalities on these assumptions are available, it was possible for Heer to work out the national and regional composition of the population implied by these assumptions after the attack. Over half of the book is devoted to the methodology and results of such computations, using 1960 data. These include not only the standard demographic measures of population composition—age, sex, marital and family status, fertility, education, race, religion, occupation, and the like—but also political party, attitudes, and behavior. The approach seems reasonable so long as the author is dealing with characteristics not subject, or not readily subject, to change, but less plausible as applied to such matters as income, percentage of children in schools, and the like. Nor do present regional differences in political-party affiliations, and in views on internationalism and on domestic political issues, seem very relevant to a postattack situation.

The striking feature of the results is how little difference in population composition—not size—such massive attacks would make, despite the concentration of fatalities in metropolitan areas. Differences are only a few percentage points, and scarcely more than those that are occurring "normally" in a decade or so in our rapidly changing society. The results reflect the growing homogeneization of our population in which regional and rural-urban differences are being progressively reduced.

The vital exception to the above is in the destruction of family units. The more devastating of the two attack patterns would, on these computations, dissolve some 17 per cent of the nation's marriages through death, the proportion ranging from 38 per cent in the northeast to less than 4 per cent in the nonmetropolitan west. Some 8 per cent of the children would be made orphans by loss of both parents.

The book includes a nonquantitative chapter on factors affecting postattack migration and another on model-population projections for twenty years after the attack. The latter struck this reviewer as an esoteric exercise, except in that the projections show how quickly purely numerical losses of population might be recovered, given a modicum of political and economic organization.

A final substantive chapter attempts to pose the dilemmas and choices in the use of manpower in the postattack period, for example, education versus gainful employment and childbearing versus employment for women.

Heer has tackled an unpopular and depressing subject with industry and rigor. He recognizes that his results are only illustrative and that the specific assumptions used will not be applicable to future conditions. He cites Secretary McNamara on the possibility of much higher percentages of fatalities—over 50 per cent. The higher the percentage of fatalities, the more the surviving population would approximate the composition of the nonmetropolitan population.

The study suffers from its highly formal approach, with elaborately presented statistical results—over half of the text is tables. It is another case in which the

work might well have been better had not high-speed computers been available. But despite overelaboration, the results will surely be useful to those who must attempt to evaluate what might be salvageable after a nuclear holocaust.

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ROBERT MCC. ADAMS. *The Evolution of Urban Society: Early Mesopotamia and Prehistoric Mexico.* Pp. ix, 191. Chicago: Aldine, 1965. $5.75.

This essay, delivered as a series of lectures at the University of Rochester in 1965, is a comparative study of the processes by which two stratified and politically organized societies evolved. The author, who is Professor of Anthropology at the University of Chicago, is admirably equipped to cross disciplinary lines not only by his professional training in anthropology but by field experience in archaeological research in Iraq and Mexico. Agriculture is seen as an important factor in the rise of urban society in the chapter on "Subsistence and Settlement." Despite differences in agricultural techniques employed in Mesopotamia and Mesoamerica, an intensity of land use resulting from the use of irrigation produced a wealth by which a class society emerged in both areas. In view of the author's important explorations of the ancient waterways of Iraq, it is noteworthy that he finds it difficult "to see the emergence of the towns as a consequence of any monopolistic control of the water supply of surrounding villages, and still more difficult to imagine the growth of their political institutions as a consequence of a need for a bureaucracy concerned with canal management" (p. 69). The chapter on "Kin and Class" presents the evidence for the emergence of class stratification and the rise of slavery. In both societies there appears to have been a development from corporate kin groups, which originally controlled the land, to an urban elite with their private estates. Effective use is made of such diverse evidence as the funerary deposits in the Early Dynastic tombs of Mesopotamia and the thousands of cuneiform documents from everyday life as sources of information about the rise of class differentiation. A concluding chapter, "Parish and Polity," covers such subjects as temples, palaces, burial customs, and religious texts, which in the cuneiform field have been at least the traditional concerns of archaeologists and philologists.

The unique contributions of the essay lie in the asking of new and broad questions from the masses of data which have been recovered by archaeologists and treated by historians within a rather restricted frame of reference. The books should serve not only to inform the general reader in two important fields of history but also to open up new avenues of investigation for the specialists.

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DAVID BRION DAVIS. *The Problem of Slavery in Western Culture.* Pp. xiv, 505. Ithaca, N.Y.: Cornell University Press, 1966. $10.00.

The Problem of Slavery in Western Culture is a demanding book. Its organizational pattern is not readily discernible, a hurdle made steeper by the wide range of the topic itself. The author is discursive —fond of bypaths. He is wordy; of his fifteen chapters, eleven have colon-divided headings, such as, "Religious Sources of Antislavery Thought: Collective Guilt, Private Opinion, and Commitment." The reader must learn to expect a Latin phrase or a quoted line in French. But the book is demanding, too, in the larger sense that its importance compels our attention. For it purports to do nothing less than to take a major force in the shaping of Western culture and subject it to an analysis in depth.

Davis traces the religious and philosophical responses to the existence of slavery from the time of the Hebrews to the eve of the American Revolution. An institution that was widespread in Europe long before

Portuguese mariners ventured down the African coastline, slavery had not lacked for apologists. Some early church fathers construed it as divine punishment for man's disobedience; others saw it as a means of punishing the heretic or converting the heathen. But in modern times the reconciling of slavery with Christianity and morality gradually gave way to a more critical attitude, spurred on by the decline of the British West Indies and by the eighteenth-century doctrines of man's inalienable right to freedom. By 1775, when Davis brings his volume to a close, slavery's critics were not to be stilled. In this movement the major figure in colonial America was the Quaker, John Woolman, to whom Davis devotes an eleven-page epilogue. Holding that inviduals are the keys to an understanding of their times, Davis earlier treats such additional figures as Aristotle, Aquinas, Montesquieu, Abbé Raynal, Locke, Hobbes, and Edmund Burke.

Bold in interpretation, Davis challenges familiar viewpoints such as the contention that slavery in the Americas was greatly different from slavery in other places and times or that slavery in Latin America differed very much from slavery in North America. Wherever the institution might be found, concludes Davis, its variations were less significant than its uniformities. Whether slavery in the United States left a deeper scar than it did elsewhere is a topic which Davis may treat in the succeeding volumes that he promises us. These additional, companion titles will be eagerly awaited. But even if they never appear, this book by itself will stand as a work of truly major proportions—an epic of its kind in sweep, synthesis, and erudition.

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ROGER A. FREEMAN. *Crisis in College Finance?: Time for New Solutions.* Pp. x, 243. Washington, D.C.: Institute for Social Science Research, 1965. $5.00.

This book is not meant for laymen or perhaps it is, certainly the administrative "pros" are familiar with its contents and so are the "pros" in government.

Faculty members generally are too occupied with their own disciplines to bother with the reading of a treatise on college financial problems. From their point of view and perhaps properly so, financial problems should be solved by larger donations or legislative appropriations—an objective for the President and Board of Trustees to pursue with diligence. The very competent author has summarized in a well-documented scholarly fashion the forthcoming financial needs for what he calls I.H.L. (Institutions of Higher Learning).

The possible sources of funds are indicated by the following chapter titles: "The Student Pays"; "The Donor Helps"; "The State Supports Some"; "Uncle Sam To the Rescue"; and the final chapter, "More Than One Way To Skin a Cat," presents the case for the tax credits for college expenses. The author is a vigorous proponent for tax credits on both philosophical and practical grounds. He seems to believe that the alternative to tax credits for educational expenses must be higher federal appropriations to I.H.L. Such appropriations tend to aid some institutions, some subjects, or activities. Tax credits provide a method for helping to meet the needs of colleges and universities in general.

Any discussion of financial needs of I.H.L. should at least examine possible economies and the effectiveness of the use of present resources. The author does so mainly by reference to previous studies.

Some years ago Beardsley Ruml and Donald Morrison in "Memo to a College Trustee" presented a blueprint for making the education dollar more productive. For the most part such pleas for better utilization of human and material resources have gone unheeded.

The reviewer agrees with the author that eventually the force of necessity will bring about changes in traditional educational methods and procedures—changes that will produce economies without impairment of sound educational policies.

Laymen who take an active interest in higher education will find *Crisis in College Finance?* enlightening. The book will help

all readers to an understanding of the problems ahead in I.H.L. and possible solutions of the problems.

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